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President's Address.

Read before the State Medical Society at Salina, Kansas, May 13, 1890.

BY C. C. GREEN, M. D., OF TOPEKA, KAN.

Members of the Kansas State Medical Society:

The constitution of the society exacts of its president an address upon some subject of general interest to the profession, presumably a review of the advances of the past year in medicine and collateral sciences. It occurs to me that I will better subserve the interests of this session by disregarding this requirement, as it would be a matter of presumption for any member to place in review the year's work in the various departments of our science.

Remarkable changes have taken place since the date of the first meeting of this society, when the requirement was exacted in the city of Lawrence, February 10, 1859. One of the most marked as applied to the practitioner is the facility for gaining information, and the opportunities for keeping pace with the advances as afforded by the medical literature of the day. Thirty-one years ago, if any periodical literature was available it was the semi-annual. That—and a bright oasis it was—gave a retrospect of the advances which could be collated during the past six months. As time advanced the eager demands for this mental pabulum forced the semi-annual to make way for the quarterly; it in turn has yielded to the monthly, which now contests the ground with the weekly. To-day probably every physician present is a subscriber to one or more weeklies and several monthlies. During the early history of medical journalism one periodical covered the whole field, while now separate journals are issued in the interests of each special department. Thus we have our weekly and monthly visitors, each devoted to its own special field, giving us our annals of surgery, archives of gynæcology, obstetrics, diseases of children, diseases of the air passages, of the nervous system, ophthalmology, laryngology, syphilology, dermatology, dietetics, microscopy, &c. A supposed achievement in any department to-day is heralded to the world to-morrow, and submitted to a jury made up of thousands of unbiased investigators, who, with the skill of experts, place it under the scalpel of their judgment and determine whether it shall stand as a monument of good or pass to forgetfulness.

With auditors before me made up from this class of readers, should I make the review as contemplated by the constitution, I should simply cover a ground with which you are equally familiar.

Should I give you a history of medicine it would be "but an oft told tale" again. These annual meetings are of interest in just so far as we eliminate dry details and tedious narrative, therefore knowing that we have a programme of work to present you, which will merit your careful attention, and require the full time allotted to this meeting. I have thought best in view of the foregoing to omit a general address and present a simple plan or suggestion, which I have hoped would create a more general interest, and elicit a more active co-operation of the profession of the state in the work of this society.

My only theme then is the interests of the profession of Kansas, and how best to promote them. The president of the United States, before convening congress, outlines a policy which he thinks will best subserve his constituents. The simple suggestion which I have to make, and which will consume but a few moments' time in its demonstration, is

the more perfect organization of the auxiliaries to this society, viz., the district associations. Great ends are only attained by concerted action, and knowing that the nurseries of the state organization are the county and district medical societies, if we can then adopt a plan to promote their organization and enlist them in the work of the central body, we shall have attained our purpose. A step toward this was taken two years ago by making this a delegate body, but we have not profited by this as has been our privilege. I would make the local organization bear the same relation to the state body as the chairman of sections do to the national association, and thereby make them responsible for the work required of them. By our present plan the programme for our annual meeting is practically prepared by our secretary, and mostly secured through personal solicitation. He cannot have knowledge of the capable men throughout the state except only those who are attendants upon our meetings. Aid him in this duty by requiring the president and secretary of such auxiliary district society to pledge a specified portion of the programme for the state meetings. Each district society has tributary to it from one to three hundred regular practitioners, many of whom are active workers in their respective organizations, but there being nothing in common between the two bodies their whole allegiance is given to the home society. None would be more conversant with the abilities of the physicians throughout the state than the presidents and secretaries of the local bodies, and in making their appointments of essayists their pride of locality would induce wise selections. This would give our secretary correspondents and co-workers in every section of the state, and would secure contributions from the most studious and earnest workers. I would not by this plan limit papers to such only as might be designated by these officers, but would enlist by the plan the active co-operation of all city or district societies, and by direct appeal encourage organizations where none exist.

Societies and journals are a great incentive to work, and work develops the physician. No one can prepare an essay for a medical society without adding to his store of knowledge, and when he comprehends that it is to be submitted to the scrutiny of others and then published, you can rely upon a meritorious production.

Through this incentive we owe a great debt to medical journals; and in this connection it is with pleasure that I commend to your favorable consideration our two Kansas periodicals, the KANSAS MEDICAL JOURNAL and the *Kansas Catalogue*. They are ably conducted, and made up chiefly of the productions of Kansas men. They are in every way worthy of your favorable mention, your contributions and your means. The adoption of the plan which I have suggested need not call for any legislation, but simply a commendation, when with an efficient a secretary as we now have the details would be successfully carried out. During the coming year the state, by this plan, can be completely organized with twenty-five city and district societies as auxiliary to the state, each in friendly rivalry striving to excel.

It is with peculiar interest that I have watched, as it were, the signs of the times relative to the progress of the science of medicine and surgery in the state, and I am led to believe that the present time will mark an era in our history if we but avail ourselves of our opportunities. At no time has there been more marked advance in the more skillful work of the profession than during the past two years.

It is my duty, and a pleasure, to call your attention to a departure in our medical history, which has developed since we last met in annual session. I refer to the Wichita Medical college, which has completed its first annual course of lectures, and to the Kansas Medical college, which will inaugurate its first course at Topeka September next.

With a personal acquaintance with the gentlemen comprising the Wichita faculty, and knowing well their high attainments, I can commend their school to your favorable consideration. I have been informed through reliable sources as to the character of the work being done by them as teachers, and of the systematic manner in which they have prepared themselves for their responsible duties. What has been said of the Wichita school is equally true of the one organized at Topeka.

It is opportunity and application which makes the physician, and I can assure you that the year's work preparatory to the advent of college work, has done much to mature and develop the gentlemen assigned to the various chairs. These schools will prove themselves worthy of your confidence; if, however, they are productive of no other results than the development of the gentlemen assigned as teachers, their mission will ont have been in vain.

Kansans are loyal to Kansas. Support your Kansas journals, your Kansas schools and your Kansas physicians. We have a community of interests. Benefit to one will be a benefit to all. You owe your allegiance to your home, as Kansans to Kansas, as Americans to America. It is no longer necessary to go beyond the confines of our state for skilled service. You may ask, has the profession of the state attained the high rank which entitles them to this consideration? I am frank in answering, yes. The work being accomplished, and the emanations from this society and its auxiliaries throughout the state place us abreast of the line, but it is our privilege to advance to the front rank as leaders, a place which can only be reached and maintained by application and original research. What we must develop are the builders of medical history.

The record of the past has been made, the history to follow will be as we rear it; therefore, if I have said a word to encourage you in the labors before us, or have suggested an outline which may promote our individual or general interests, I shall have accomplished more for legitimate medicine than if I had given you a learned discourse on its science. I do not purpose invoking the aid of legislators to protect either our interests or that of the community, but that rather through higher attainments we shall command that which is dear to us, the confidence of suffering humanity.

Mindful of the high honor conferred upon me by election as your president, I return my sincere thanks, and crave your indulgence throughout the session.

READ the JOURNAL thoroughly.

The Relation of Formative Matter to Disease.

Read before the State Medical Society, at Salina, Kas., May 13, 1890.

BY J. S. FOOTE, M. D., WICHITA, KAS.

Mr. President and Gentlemen:

An apology is due this society at the outset for an attempt to discuss a subject like this in the time allowed; it borders upon the ridiculous. Trusting however that you will overlook any presumption on my part, and that you will consider this paper more in the nature of an introduction than a discussion, I will call your attention to a few points which may be of interest.

Believing that nothing has been added to or subtracted from the evidences of life which appeared at the early dawn of creation, I desire for a moment to turn back the pages of history and see what the first forms of life were doing after the decree of Omnipotence had been uttered. In the beginning there was a living cell—a product of two mighty factors—mind and matter. An intelligent First Cause had united the material with the immaterial, the visible with the invisible, the ponderable with the imponderable. Out of the chaos of an unknown eternity there had been evolved something which had not existed before. As in the beginning God had created the heaven and the earth, so in the beginning of the living cell He had united heaven and earth. With our planet at a temperature of 200°F., at the close of the Archaean age the elements composing proteids, hydrocarbons, fats, salts, water and an unknown something came together. For convenience we call it protoplasm. This was the introduction of life. A study of this new product would find it composed of a vital force and an inert mass, the one capable of doing something, the other capable of doing nothing, the one formative, the other formed, the one expressing itself in what we call the nucleus, the other in the cell body, the two constituting a cell. This was the first intimation of formative and formed matter. A marked difference between these two parts of a cell may be easily shown at any time by the ordinary double stain. Hematoxylin stains

the nucleus or formative matter blue and does not stain the cell body or formed matter. The reverse is true of eosin. By further observation the little cell appears to assert its ascendency in an unmistakable manner; as it swam in the warm primæval waters, it would come in contact with a particle; it would stop it, extemporize a stomach and digest it if it was food, if not it would eject it. Here was the first appearance of a strange power—a power by which matter could appropriate to itself the latent energy locked up in other forms of matter. It was nutrition. By means of this power the cell could add size and force to itself and was able to continue its existence; this was growth. Watching it a little closer we are surprised to see it move. Here was a mighty achievement, a mass of matter had moved at will from one point on the earth's surface to another. Independent motion had never existed before, something had been instituted on the face of an inert world which the unborn ages to the end of time could never presume to explain. This was not all, the eternal Fiat had not completed itself, with nutrition, growth and motion the work was yet unfinished. Let us see. There is a disturbance in the little mass—a tumult among the atoms, a confluence, a diffluence; the little cell divides into two parts, each part endowed with the same attributes—reproduction. The power that makes two living things out of one, the origin of parent and offspring, a creation, a masterstroke of Intelligence. Now the work was complete. The cell could go on; great possibilities were before it; it occupied an eminence from which man was visible. Nutrition, growth, motion and reproduction, the four great attributes of the living cell. Has the complex animal of to-day anything more? Has one single attribute been added in the course of ages? Is animal life characterized by anything else? Is not the sum and substance of life expressed in those four terms? Are not these boundaries within which living matter expresses itself fixed? If this is so, and it certainly seems that it is, then the cell must act in accordance with the attributes and with them alone; that is, living matter can do nothing except to nourish itself, grow, move and reproduce. The earliest living things belonged to the protozoa, and the complete animal was composed of a single cell. The amœba is a variety of this class of animals. If we compare the amœba with the white blood cell of any animal now living, chemistry nor the microscope will detect any appreciable difference. The two look alike, act alike, are alike. Furthermore if the amœba be compared with the cells of a very young fœtus, with the cells of a recent inflammation, or with the nuclei of adult tissue cells, little or no difference will be detected. All have the four attributes and their functions are limited by them. This would tend to make formative matter universal; that is one and the same thing as far as chemistry and physiology are concerned, whether it be in a protozoan, radiate, mollusk, articulate or vertebrate.

Again, comparing formative matter with formed or the nucleus with the cell body we find that the latter is derived from the former. The cells of a young fœtus, of a neoplasm, of an inflammation indicate this. The cell body is not nourished, does not grow, cannot move, does not reproduce independently. The death of the nuclues terminates the existence of the cell. The cell body is not the first to appear, but the last. The cells of a fœtus at first are round nuclei, the definitive form of a connective tissue, epithelium, muscle or nerve cell not being visible until development has arranged the tissues.

We also find cells in the various stages of evolution toward the complete form. In the mucous tissue of the umbilical cord, in the fœtus itself, in granulation tissue, in tumors we can observe the gradual tendency toward a complete cell starting in all cases from a formative nucleus. The formative matter therefore becomes the chief element in the production of an animal and in all changes which occur within the animal and therefore chiefly concerns us in our present study. Of the four attributes which belong to formative matter nutrition is the most important and stands in a causative relation to the other three. Cut off nutrition and the cell dies and growth, motion and reproduction cease; it connects a vital force to inanimate matter and makes self-continuance possible. Without the depend-

ence upon nutrition the cell would be immortal, death would be unknown and some catastrophe would be needed to depopulate the world at regular intervals. This would not be in accordance with the progressive plan of the animal kingdom. It is necessary that a cell or animal having lived should die. Let us look now at the general structure of the animal body. The body is composed of five tissues (calling blood a tissue) viz: connective tissue, muscular, epithelial, nervous and blood, certain tissues having several varieties. There is nothing else in the body but these tissues and their combinations. Each tissue is composed of cells and an intercellular substance. The cells have a nucleus, nucleolus, cell body and basement membrane. The intercellular substance, the cell body and the basement membrane are produced by the nuclei and nucleoli and are formed matter. The nuclei and nucleoli are formative. The different tissues are arranged in a manner with which you are familiar. The vital part of a cell is its nucleus, and therefore the functional part of the entire body is contained in these same formative elements and as we have seen is dependent upon nutrition for its activity and continuance. Nutrition is possible by means of food which is always obtained from the outside world. The food reaches the cells through the circulatory system being first prepared by the digestive apparatus and respiratory organs. Now inasmuch as cells can only grow, move and reproduce under the stimulation of a food, it follows that a normal food in normal amount acting upon the nuclei of normal cells, must produce or cause the nuclei to produce normal cells, which will produce normal tissues, which will construct normal organs, which will arrange normal systems, which will complete normal bodies or that condition of the animal known as health. On the other hand an abnormal food, that is food containing certain forms of bacteria, chemical irritants, &c., acting upon the nuclei of cells will cause them to produce abnormal cells which will produce abnormal tissues which will produce abnormal organs, systems, bodies or that condition of the animal known as disease. Eight times four are thirty-two and it makes no difference in what manner the factors are arranged; but if we add or subtract the smallest conceivable fraction from either multiplier or multiplicand we can never obtain thirty-two as a product. So the complete, perfect or normal animal is the product of a normal food and a normal formative matter; nothing can be added to or subtracted from either factor without disturbing the product. Since food is derived from the animal and vegetable kingdoms, from the atmosphere and water, all of which may contain living organisms or substances incompatible with the life of the cell, it is evident that food may be modified by such organisms or substances, and hence one of the factors may be changed. When we deal with the nuclei of cells we are concerned with a form of matter which is nearly on the same plane with the micro-organisms; both have the same attributes and therefore it is not strange that some are incompatible with others. The law of the survival of the fittest applies to them as well as to the more complex animals. By virtue of the power of nutrition which the cells have many germs are at once taken up and destroyed, while others by their stronger resistance excite the cell to growth and proliferation, and the formation of structural changes. Let us examine some of the diseases where structural changes have occurred. Tuberculosis—In this disease tubercle bacilli enter the body and often locate in the lungs where they come in contact with the nuclei of the cells and with leucocytes. This formative matter unable to destroy the germs is excited by them; as a result, the nuclei doing only what they have the power to do, grow and proliferate, new cells are formed which partake of the nature of the germs. From these new cells a new tissue is produced; but it is a tissue which cannot become complete or normal because of the bacillus modification of the cell-genesis. An incomplete tissue then is produced and this is one of the characteristic features of the disease. These new cells arrange themselves in little round masses called tubercle granules; this is a second feature. On account of the incompleteness of the tissue produced there is a tendency toward a cheesy degeneration; this is a third. From the activity in the formative matter under the bacilli large, irregular shaped

cells with many nuclei, whose long diameters are directed toward the centre of the cell are produced; these are called giants cells, a fourth feature of the disease. These changes go on involving more and more of the normal tissues until the function of the lungs and other organs where the same process has been going on is disturbed when symptoms appear. The gravity of the symptoms keeps pace with the structural changes, and when the lesion becomes so extensive that the forces of the body cannot be maintained by the function of its cells, death results. All of these changes have been produced by the growth and proliferation of cells under a modified food. No new process has been instituted. Again the pneumococci or the causative factors of acute lobar pneumonia begin operations in the parenchyma of the lung. There is congestion of the blood vessels, an exudation of white and red blood cells, fibrin which becomes reticulated and a proliferation of the respiratory epithelium from the action of the causative factors upon the nuclei of cells. In chronic interstitial pneumonia, the connective tissue stroma between the lobules,around the bronchi and blood vessels and in the walls of the air spaces is under a modified food stimulant and growth, and proliferation of the fibrous tissue cells occur forming a new growth of connective tissue which produces an indurated lung and constitutes the characteristic lesion of the disease. In both of these diseases the changes are due to the same two attributes of the cell-growth and reproduction. In the several forms of pleurisy—an inflammation of a white fibrous tissue covered by endothelium, we have a desquamation of the thin endothelial cells, the growth of the old tissue cells and the production of new ones, the formation of a new layer or a thickened plura; fibrin, serum and pus may or may not accompany the lesion; but the entire process is one of proliferation and growth. In peritonitis we have the same result attained in the same manner. In the cellular variety there is simply a growth and proliferation of the connective tissue cells with no fibrin, serum or pus, and yet it is of sufficient importance to cause death. In cellulitis we have the same process terminating in the same result. In acute inflammation of mucous membranes we have a swelling and desquamation of the superficial cells, a proliferation and growth of the deeper cells, a decrease followed by an increase in the activity of the glandular epthelium and in the chronic form in addition a new growth and thickened condition of the connective tissue stroma. In cirrhosis of the liver we have a new formation of connective tissue along the capsule of Glisson and between the liver cells simply as a result of proliferation and growth. In various forms of diffuse and interstitial nephritis by the same process there is growth of the connective tissue stroma, whereby the blood vessels and epithelium of uriniferous tubes are impaired and the function of a most important organ disturbed.

In sclerosis of the brain and spinal cord there is a new growth of connective tissue from the neuroglia, and a consequent disturbance in the nerve fibres and cells. In tumors, those strange bodies which appear as lawless to a student of histology, as comets to an observer of the heavens, there are proliferation and growth of pre-existing cells, the rapidity of the process indicating the incompleteness of the product and the malignancy of the tumor. And so in all diseases where there is a structural change we find but one process, and arrive at the same result by means of the two factors—modified food and formative matter. The cells, as we have seen, can do nothing else but obey those natural laws. It makes no difference what the stimulant is if it is sufficient to set the nuclei at work, proliferation and growth must ensue. Chemical irritants act in the same manner.

If we apply ammonia to the cells of a cornea and watch the result, we will find that the nuclei have divided into many, and have the primeval amœboid motion. The same is true of mechanical irritation. Even an excess of a normal food applied to the nucleus of a cell will cause it to divide, and the divided portions are to all appearances pus cells. The main point to which I wish to call your attention then is this, that the four original attributes of living matter which characterized the first cell that ever had existence, are the only means by which the structural changes of organic diseases are possible. Right here an

eliminating factor comes in which changes the result mentioned above. If all germs which enter the body cause a proliferation and growth of tissue, how does any one escape disease?

Lymphoid tissue is retiform tissue packed with leucocytes. The retiform tissue is merely the stroma which holds the cells in place, so that the leucocytes make up the important part of the tissue. The white blood cells are formative matter, and differ little from the nuclei of other cells. They have the four attributes, and it is by nutrition that a most important eliminative factor is introduced. Germs enter the body and are taken up by the leucocytes, or the nuclei of cells, if the cells digest or destroy the germs no trouble ensues; but if the germ acts upon the cell proliferation and growth follow. This is phagocytosis. Metschnikoff observed the process in transparent animals, which were found invaded by the parasites of the higher animals. The spores of the germ enter with the food, and gain entrance to the cavity of the body. Four times out of five the leucocytes of the animal picked up the spores and destroyed them, and the animal escaped death. Once in about five times the leucocytes were unequal to the struggle between themselves and the germs, and the animal died.

Prudden, I think, found the same destructive agency in the serum of the blood. The arrangement of lymphoid tissue would seem to give us a hint in regard to its function. Wherever there is an entrance into the body through which germs can enter, there we find a mass of lymphoid tissue. For instance, we find it in the back part of the mouth, in the tonsils, along the respiratory tract, beneath the mucous membrane of the stomach, in the thymus and thyroid glands, in the villi of the small intestine, in the solitary and agminated glands of the same organ, in the solitary glands of the large intestine, and even in the vermiform appendix, that rudimentary organ which may be of use somewhere in the animal creation; in the Malpighian bodies of the spleen, and in seven hundred lymphatic glands which are always located near the commencement of lymphatic vessels. So that it is probable that food containing germs in its passage along the alimentary tract, and the atmosphere containing germs in its passage along the respiratory tract, and any liquid containing germs in its passage through the lymphatic vessels, after being absorbed by the skin, are constantly coming in contact with the eating cells or phagocytes. It is not an uncommon thing to find in microscopic examinations leucocytes containing bacteria. Why do we find lymphoid tissue arranged in this manner? Is not this arrangement just the one we ought to have to accomplish phagocytosis? India ink pricked into the finger may be found in the lymphatic glands of the elbow. Cancer or syphilitic virus introduced through the glans penis, may sooner or later appear in the inguinal glands. Cancer of the testicle enlarges the lumbar glands; cancer of the breast the glands of the axilla. Coal dust drawn into the lungs may appear in the Malpighian bodies of the spleen and the bronchial glands. The lymphatic system begins in four ways, viz.: the lacteals of the small intestine, the lymphatic spaces of the tissues, the serous membranes, and the perivascular canals. The first two of these ways provide extensive entrances to the circulation, and as the current in the lymphatic system is always in one direction, viz., from the periphery to the heart, unless there were some means of germ elimination, as by the presence of lymphoid tissue or phagocytes disease would be almost continuous. It would seem, then, that the power of nutrition given to the cells as a means of self-preservation, is also the means by which germs are destroyed, and that the leucocytes which correspond so closely with the first cells are located at the entrances of the body as a protection for the unsuspecting inhabitants of the inner world. Text books have little to say concerning the function of lymphoid tissues, and whenever they speak of the function of an organ as obscure, it is pretty safe to say that it contains lymphoid tissue. Thus the power which cells have of germ elimination, and of producing structural changes, is due to one or more of the four original attributes.

Again, if we compare new cells with each other we will find them much alike, as, for example, the cells of a two-weeks' fœtus, the cells of newly formed granulation tissue, the

cells of a small round cell sarcoma, the cells of a large round cell sarcoma, the cells at the periphery of a tubercle granule, the cells of a proliferated respiratory epithelium, the cells of acute pleuritis, the cells of an acute peritonitis, the cells of an inflamed cartilage, of a myxoma, of a cellular meningitis, of an acute inflammation of a lymph node in typhoid fever, of an osteitis, of arthritis, sketches of some of which you will see upon these charts. Here are various kinds of cells, which, if able to complete their work, would produce widely different results, and yet at an early stage their similarities are much more striking than their differences. This is one reason why it is often difficult to distinguish diseased conditions by their cells. There are no characteristic cells by which disease may be known. There must be arrangement. Who can tell a cancer cell or a sarcoma cell, or a cell of repair, or a cell of inflammation, when taken by themselves? If we compare the cells of a normal cerebrum of a four-weeks' fœtus with the cells of an acute peritonitis of the fourth day, we will find them so much alike that we might easily mistake one for the other.

We might suppose a giant cell to be characteristic of certain forms of disease, but we find them in tubercle, in normal marrow, in sarcomas, in pleurisy, and in many other inflammations. They indicate the growth of a large cell, and that alone. Now, if we examine cells at different stages of their development in the evolution of the fœtus, we will find them gradually taking on the form of the complete adult tissues; some will make the irregular, branching or spindle cell of connective tissue; some the squamous, columnar, ciliated or spheroidal cell of epithelium; some the long, slender spindle cell of smooth muscle; and some the unipolar, bipolar or multipolar cell of nervous tissue.

In the development of tissue we start with the round cells of the blastoderm, and conclude with the well known adult forms. It is certain that a complete connective tissue, muscle, epithelium or nerve cell, never came into existence at once either in health or in disease. The similarity of all new cells, and the change in form which they exhibit as they become developed into complete tissues, seems to me to refer us back to the same process and attributes which have been described above. For the reason that new cells are hardly distinguishable from each other, and that they are produced by a proliferating process, inflammatory products are often spoken of as a return to the embryonic condition. If by the embryonic condition is meant the proliferation and growth of cells, it would seem that the nuclei of cells and formative matter in general are always in that condition; that they are always subject to stimulation, growth and division; that they could not return to that condition, because they never get beyond it. All that is necessary at any time to cause a cell growth and tissue formation, is to reach the nuclei with an irritant. The rate of appropriation of food by the nuclei is governed by the cell body. In cirrhosis of the liver the liver cells become atrophied, not only by the pressure of new connective tissue, but also by the unyielding condition of the cell bodies, which being of an albuminous nature are rendered less permeable by the irritant which causes the disease; the nuclei therefore do not receive the usual amount of nutriment, and the activity of the cell is impaired. This may have something to do with the atrophy of cells and tissues in old age. Food less easily finds a passage through old cell bodies than younger ones.

There is then only one process which goes on in the body, either in health or disease, and that process is due to the four attributes, nutrition, growth, motion, and reproduction. If this is true pathological changes are simply physiological, or intensified or modified processes. Inflammation is merely the irritation, proliferation and growth of formative matter, and its processes do not differ from normal ones except in intensity and rapidity. We are apt to look upon disease processes as different in some way from normal processes. But how can that be? There is no new creation of cells, but merely a modification of them. Every living cell must come from a pre-existing cell, and symptoms are the expressions of the process. The variable factor introduced into the body is the food, the formative matter being the same.

It is not probable that all cells of different

individuals have the same degree of power in regard to their nutrition, growth, motion and reproduction. There must be what might be called a standard condition of the cell; that is, a cell derived from a perfectly normal parent, and surrounded by normal conditions. In such a cell the four attributes would attain their highest state, and would maintain a normal body. But if there is a union of two cells—an ovum and spermatazoon—one or both of which are from a tuberculous or syphilitic parent, the product of the union could not be a perfectly normal cell, tissue or body. The microscope or chemistry would detect no difference, and yet place the two cells, one from a normal parent and the other from a tubercular or syphilitic in contact with the bacteria of disease, and the cell from the infected parent will be the first to yield to the germ. The deviation from a normal cell would produce a special susceptibility to the influence of irritants. This is predisposition, and it seems to be in perfect accordance with what would be expected. The graft determines the kind of fruit which the tree shall bear. A proper soil is often mentioned as a necessity for the growth of bacteria. Such a soil would seem to be composed of cells and tissues, whose formative matter possesses a low degree of nutrition, growth, motion and reproduction; and when these cells are called upon to resist the external irritants, the response is necessarily a feeble one. Those therapeutic agents which control the movements of formative matter are antipyretics. May not fever, then, be due to the irritation and activity of formative matter by extraneous matters? The irritation of formative matter, therefore, by a modified food, and the results which must necessarily follow, according to the four attributes of cells, constitute disease.

By one process tuberculosis destroys the function of the lungs, cirrhosis the function of the liver, sclerosis the function of the brain and cord, and the inflammatory factors the function of any organ, and death ensues. It is not possible or probable that the union of a spermatazoon and an ovum, by which a blastoderm is produced, is an inflammation, and yet the processes engaged are alike if not the same. It is hardly possible or probable, that a rapidly growing sarcoma and a young fœtus are any relation to each other, and yet the processes concerned in both are very much alike. It is not possible that the cells of an acute peritonitis and those of a normal cerebrum have anything in common, and yet the processes which produced both are the same. It is not very probable that health and disease are one and the same thing, and yet one process has produced both. The relation of formative matter to disease, then, while not that of cause to result, is that of a means through which a cause leads to a result.

Crime—Its Physiology and Pathogenesis. How can Medical Men Aid in its Prevention?

Read before the Kansas Medical Society, at Salina, May 13, 1890.

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In presenting this paper I am well aware, that with physiological theories, the law has but little to do; but with science it is sufficient that theories and observed facts harmonize. The observed facts are that intellectual and moral endowments give character to the features and deportment of the individual, and that there is a correspondence between the mental attainments and the development of the brain and nervous system. Plato said, "The wicked are wicked because of their organisms."

In the lottery of life criminals are regarded as below the average in morals, not that they do not comprehend differences between right and wrong, but they do not grasp the correlations of morals as applied to the science of right living. The science of right living takes into account the whole nature of man. Whatever is right to the individual is that which represents the highest and best of which his nature is capable. Morality is not the result of a supernaturally given conscience, but grows out of the relations between actions and their results. By one kind of action, happiness is produced and the action approved; by another kind, misery is produced and the

action itself is condemned Rightness and wrongness of actions are determined by experience. The knowledge of right and wrong is based in pleasure and pain, and the extremes of pleasure and pain will depend upon the acuteness of sensibility, and sensibility depends upon the degree of vitality found in the nervous system. If pain as a punishment, is to act as a deterrent to future crimes, there must be a high degree of evolution of sensibility and mentality in those, who are criminally inclined, before they can appreciate the fact of how pain can be avoided by right living.

The human organism in its beginning originates from a protoplast, this protoplast possesses sensibility, irritability, contractility, metabolism and assimilation with the potentiality of consciousness and intelligence. Infantology teaches that at birth all are equally ignorant, but after a certain period of time there is a great difference in the development and intelligence of each individual. This difference must be owing to some potentiality in the formative material of the embryo, which has been the result of a long series of differentiation through parentage. People may have equal advantages for obtaining knowledge, but the power of receiving and assimilating it and of combining and discriminating will depend much upon the potentiality of the brain and nervous structure inherited. The formation of the criminal character may be accidental or incidental to business pursuits or criminal environments; but the elements which go to make up the criminal character and determine the destiny of the man, are inherent in the tissues, which make up his organism. Where there is poverty of blood there will be instability of the brain and nervous structures with vacillations in morality and industrial pursuits. The factor behind all forms of crime is instability of structure. The various forms of crime are but different manifestations of instability of brain and nervous tissue, which leads to unstable habits and purposes. In the criminal the molecular changes in the brain are feeble, and impressions made upon it, by external excitations, are not transformed into thought with the same rapidity as in those whose molecular changes are more vigorous from the presence of blood, rich in nutritive material, from suitable food and regularity in eating and in business habits. Many criminals have bad assimilation, they are irregular in their habits of eating, sometimes going for days without the necessary amount of food, and when there is insufficient food for the demands of the system the tissues of the organism are drawn upon to support its functions. The brain is naturally a very vascular organ, its mass is penetrated by blood vessels, which carry the blood into its most minute structure. Each group of cells found in the cerebral arch is surrounded by capillaries, which bring nourishment to its structure and remove therefrom the effete material. The brain depends upon the blood for its life, its energy and its volition.

The brain is also phosphorescent. It is known that when dry phosphorus is exposed to the light, impressions of the sun long remain and its picture may be reproduced for long periods of time after such exposures. The phosphorus found in the brain is known as lecithin.

The brain being a physical structure, through which consciousness and intelligence are expressed, the degree of consciousness and intelligence will correspond to the character of the nutritive supplies which it receives.

That the cells of the brain should feel, become erect, act, think and associate themselves for co-ordinate action, they must be supplied, not only with blood, but with blood containing the phosphorized elements which support and build up a picture-forming surface. The presence of phosphorus in the brain makes it a picture gallery where external sensitive excitations are transformed into memories and recorded to be reproduced by similar excitations.

Consciousness may be regarded as a physiological synthesis of all the activities of all the various nervous elements in harmonic transformation of all external excitations.

The consciousness within the brain, engendered and developed in its structure, is maintained by the bathing of its sensitive elements, the cells, with blood rich in phosphorized products.

The faculties of the mind being potential in the protoplast, the nervous tissues are developed by physical and chemical changes in the cells of the brain. These faculties, like the *cell* of the brain, are infinite in number and are developed through special kinds of business or occupations. The many faculties of the mind, seated in separate portions of the brain, will develop in proportion to its activity.

Faculties which are constantly in use will become dominant in giving character to the mind, and configuration to the head.

That there is a similarity in the conformation of the heads of certain criminals of certain classes, a visit to the rogues' gallery and an inspection of their pictures will convince the most skeptical. Criminal lawyers and judges of courts will bear evidence of this fact. Policemen and detectives recognize an element in the physical and mental bearings of criminals by which they suspect them. Crimes are represented in consciousness. Rogues have a picture gallery of their own, in their brains, in which their crimes are being continually reproduced by similar excitation and in consequence they are kept in a state of constant fear and trepidation. The depressing influence of crime when continually reproduced in the mind, modifies the mental and physical bearings of the criminal. The constant presence of conscious guilt dwarfs the assimilative powers of the mind. The nucleii of the cells of the brain are shrunken and their nutritive function altered.

The power of assimilating knowledge is weakened and principles of equity do not get a hold in their minds.

The impress of crime left upon their minds may be transmitted from parent to child. The impress left upon the nervous element may not reappear in the child in the form of criminality but in the form of epilepsy, insanity or some excentricity of character. And again, criminals are often the descendants of persons of an unstable condition of nervous elements, the descendants of men of intemperate habits, epileptics and insane persons whose vital conditions are lowered from tubercles or lack of tissue-forming products. Criminals are a class whose intellectual and moral endowments are unequal to the struggle of self-maintenance. Observations made, have established the fact that when food is scarce and difficult to obtain, crimes are increased, the amount of crime being governed mainly by the yield of agricultural products and the results which supply and demand of such products have over the activities of the people.

Criminals are graded according to their mental development in a criminal direction. The higher grades are those who plan the crime but seldom execute it, leaving the execution to persons of lower mentality. Crimes are also graded, in the Statute, *as 'malum in se'* and *'malum prohibitum.' Malum in se'*—crimes which shock the moral sense as being grossly immoral, including larceny, burglary, murder and rape.

Malum prohibitum'—offenses, the ommission or commission of which, would from a moral point of view be regarded as indifferent.

Embezzlers are a class of criminals of greater turpitude than the ordinary thief, they not only steal, but, occupying fiduciary relations, they violate a trust in doing so. They are higher men, mentally, than the ordinary thief and belong to a class who outlive their means.

Murderers are a class of men with a low development of the intellectual and moral faculties and with them murder is the result of some real or supposed injury, or for gain. When the crime is committed in retaliation or revenge, it is regarded by the murderer in the light of equity.

Manslaughter is often the result of disputes and occurs among men of deficient reasoning powers, whose motives are governed by fear or self-interest. The seeds of murder have been sown by the long iniquitous wars of past ages, which placed a low estimate upon the value of human life, in comparison with an offense to some ruling potentate.

Rape grows out of an unbalanced condition of the mental and reproductive functions. In the class of men who commit rape, the reproductive function is over developed and is due to heredity, as can be traced in this unfortunate and dangerous class of men. The whole tendency of the mind is basilar and the moral and intellectual faculties are overbalanced by the sexual appetite. Climate seems to have

something to do as a cause, for the crime is more frequent in the Southern than in the Northern States. Warmth increases the vitality and sensibility of the reproductive organs and the sensual appetite is unrestrained. Rape has a physiological cause. The reproductive organs are not for the good of the individual but for the perpetuation of the species. Society should protect future generations from this unfortunate and dangerous class of criminals.

Burglars are a miscellaneous class of criminals who do not wo rk and enter people's houses for the purpose of plunder. They are ready made for the occasion and are the result of the criminal environment.

Bank robbers and train robbers are a class of criminals who live high and spend more than they earn.

Small kinds of thieving are most frequently the result of bodily need and occur among those who are the descendants of epileptics or insane, and whose vitality is too low for self maintenance.

It is impracticable to trace all the correlations of the *chevalier d'industrie* although such relations exist.

The crime most within the power of the physician to prevent has been strictly expressed in the poetic language of a New York Divine—"Rachel weeping for her children that were never suffered to be." The highest point reached in the conception of the ancient Hebrew mind was, that we live again only in our children and our influence.

It would be well for the world perhaps if we reached no higher point. There would then be no Rachel weeping for her children that were not suffered to be. According to statistics taken from the New York *World*, in three hundred patrician families on Fifth avenue, were found ninety-one children, total number under ten years of age. Total number of births in one year, six. While in the same number of families on plebian Cherry Hill, was a total number of six hundred and eighty under ten years of age and one hundred and eleven births in one year.

The social evil of the day is more under the influence of the physician than any other man. It is he who is made cognizant of the first lapse from virtue; and to him, how old is the story of the weakened chaste resolves and the increased passion of her who partakes of the social glass. Wine makes its victims insensible to the qualms of conscience; to its charge may be written in burning letters,—Illegitimacy!

How potent then, may be the influence of the physician in the suppression of intemperance, that great incentive to crime. To the criminally inclined, drunkenness but adds fuel to the fire. It increases destructiveness and combativeness, and the more malignant passions of hatred, envy and revenge. Cruelty and treachery are exalted with perversion of the imagination. The most horrible crimes are committed, their perpetrators being impelled by some mysterious influence of the stimulant. Physiologically this may be attributed to lessened sensibility of the tissues and retardation of molecular change in such a degree as to interfere with the appropriation of new atoms and the removal of old ones, as occur in the healthy process of nutrition and disintegration. Wine should be excluded from the prescriptions of physicians, except where it is absolutely indicated in the treatment of disease.

It is only recently that medical men have been invited to take part in the discussions on the subject of crime. The subject of its prevention has come solely from the medical profession. To the medical man, the uplifting of the weak to a higher level of health and prosperity, as a prevention of crime, seems far better for society than the punishment and reformation of criminals.

Crimes may be measurably controlled by the prevention of the promiscuous propagation of pauperism with its accompanying idleness, by the reclamation of filthy and unhealthy districts and the adoption of hygiene among the shiftless. The idle should be encouraged to work. Capital and labor should be united in the subjugation of the resources of nature for the benefit of man. There must be an exact balance between population and food products; as population increases, intelligence should advance and foods will be increased and improved in nutritive qualities. By the pursuit of knowledge the mental faculties are improved, the power of attention is increased.

The study of nature teaches man his relation to vegetable and animal kingdoms, and to the inorganic. The study of science trains and strengthens the mind and teaches accuracy of thinking. Thoughts will reproduce themselves in consciousness. Pictures from nature's gallery represented in consciousness produce the highest degree of pleasure, while crimes will reproduce themselves from similar excitations and the criminals will flee when none pursue. By the creation of new faculties the weak may be encouraged in new and honorable pursuits. Expenditures should not be over and above income, as want is a prolific source of crime among those who live above their means. Whatever contributes to happiness increases life, intelligence and morality; whatever produces pain increases the tendency downwards and deathwards.

The punishment of crime, from a medical standpoint, can only relate first, to the prevention; and second, to the reclamation of the individual, for with its retributive features we have nothing to do, that coming wholly within the purview of the legislative and legal professions. The punishment of crime, to be a deterrent from the commission of future crimes, should be sure and speedy and in exact proportion to the offense. Punishment at best is a feeble means and a sagacious State now, by wise measures should try to protect the future generations from becoming criminals. The proper plan for the prevention of crime is the commencement, a hundred years before the criminal is born, to better his heritage and environment. He is the sum of all his antecedents in disease, enfeebled faculties and nervous instability in a measure, with such additions as his own circumstances provoked.

The State says crime shall be punished by confinement in a penitentiary and by gratuitious labor for the State. The State has never busied itself to consider any other factors than the demands of common humanity. The offender is simply a man and is punished as such. It never makes a scientific inquiry as to his antecedents, how far he is weighed down by hereditary curses; how far his own life, volitionally chosen, has fostered the desire to commit crime or how far the circumstances that surround him have impelled him to crime. The State has never appointed a commission to make such inquiry, and it has only been made through the instrumentality of medical men, who have begun such investigations with a desire to go to the root of the matter and find out the cause and cure of crime, so far as it is possible to do. The punishment of a criminal should be to an end in view, that is his reclamation, and if possible this should be accomplished. He should probably be punished for his crime, but in that punishment he should have every opportunity to reform, he should be rebuilt and strengthened in body and mind. His vicious tendencies should be turned into honorable channels, and, if from the wreck the man can be resuscitated, it is the duty of the State to do so, and in promoting this the medical profession is an important factor. When a State imprisons a criminal he should not be put upon poor diet as this depletes body and mind. He should have nutritious, wholesome and palatable food. He should be provided with decent surroundings, good books to read for the development of the faculties of his mind. He should have honorable employment for which he should be paid on his discharge. He should not be degraded nor disgraced in his own estimation or in others. He should not be required to associate with vicious persons and he should not under any circumstances be required to wear upon his person the odious, disgraceful uniform of stripes, which of itself debases him in his own estimation. The wearing of this garb for a term of years imbues the man with a sullen, downcast, dejected disposition, which on his return to the world he will transmit to his children, as a newly acquired trait of heredity never in his strain of blood before.

There are all-sufficient reasons why the crime of murder should not be punished by the retaliation of death. The fallibility of human testimony from mixed motives of revenge, malice or self-preservation is all-sufficient. It is not within the power of the State to correct the wroug. It cannot return the life so wrongfully taken, and to say that it is a prevention of crime is simply to fly in the face of statistics that declare otherwise.

The whole theory of inflicting the death-

penalty is retaliatory. As revenge, the State takes an eye for an eye and a tooth for a tooth. In meeting out punishment to criminals it should be remembered that the relations between crime, epilepsy, insanity and tuberculosis is very close; that they are found in the same families and are governed by the same general physiological and pathological laws.

Empyema—Its Course, Treatment and Recovery.

Read before the South Kansas Medical Society at Wichita, Kansas, May 6, 1890.

BY M. W. CAVE, M. D., OATVILLE, KANSAS.

Owing to the fact that my limited practice of medicine and surgery has been confined to a rural district, my experience with this vexatious malady is very small, limited to three cases, all occurring within the past fourteen months.

I shall make no attempt to delineate the etiology, morbid anatomy, or special diagnosis of this trouble, but will take each case as it presented itself, and in my feeble way give the course through which I followed them, with their attending symptoms and complications.

Case 1. Chas. R——, a schoolboy, slender built, age seventeen, and with a strong tubercular diathesis. I was called to see him March 1, 1889, and found him lying on his left side, performing sixty respirations per minute, with temperature 103°, and pulse 160. Bareing the chest disclosed great deformity of the left side, especially very noticeable inter-costal bulging. No sounds were elicited on auscultation, on percussion a flat note palpation nothing. Could lie only upon the affected side. I introduced a hypodermic needle into the pleural cavity, and aspirated a small quantity of thick, yellowish green fluid of a very offensive odor, which, subjected to the microscope, proved to be pus.

On the following day, assisted by Dr. Jordan of Wichita, to whom I am greatly indebted for valuable advice, we made an incision about the median auxiliary line in the seventh inter-costal space, and drew out one hundred and ninety ounces of thick, lumpy, greenish pus. I then introduced a one-fourth inch drainage tube, and washed out the cavity with a one to four thousand solution of bichloride of mercury. I used this wash once daily for two weeks. Fearing that I might produce mercurial poisoning from the retention of the fluid in the cavity I changed to a saturated solution of boracic acid.

Was summoned to see him in a great hurry on March 20, and found him very nervous. His temperature had run up to 104°, pulse to 150. The tube had stopped discharging to a great extent, and he was suffering considerable distress. A physical examination revealed a pus sac in the posterior part of the cavity. On the following morning, at which time I had concluded to make an incision over the sac, the pus found its way through the lung, and he spit up about a quart of pus in a short time.

Again, the 28th, the tube stopped running almost completely, with constitutional symptoms very much the same as before, and the second day afterward the tube discharged profusely, which indicated that either the lung drainage had been occluded, or another sac had been formed with adhesions separating it from the tube through which the pus found its discharge.

It is quite probable in the first trouble, that adhesion had taken place, and thus the drainage through the tube prevented, and the adhesion offered greater resistance to the pus pressure than the lung tissue, which was evidently very much eroded and diseased.

From this time forward the patient improved without intermission, and by June 1 the tube was entirely removed and the patient dismissed perfectly cured, and says he weighs more and enjoys better health now than ever before.

Case 2. H. V——, laborer, age 32. Was called to see him March 28, and found him suffering severe pain in the right side, especially with each respiration. His temperature registered 104°, pulse 130, and respiration 40, and each with a grunt. Had a bad cough, a dull note on percussion, and considerable rattling in his lungs, but spit no blood. Having been taken with a chill the day before, and

with present symptoms, I suspected pneumonia, and put him on opiates sufficient to control pain, antipyretic doses of quinine, and a mustard draft on affected side. I found him resting more comfortably the next day, but still some fever, and continued the treatment for some days, varying the dosage as symptoms indicated.

In about ten days the patient lapsed into a state of profuse nocturnal diaphoresis, and soon became much prostrated. Had no pain and but little cough. On close examination I noticed some enlargement of the right side, which gave a flat note, no vocal fremitus or lung sounds at all, which is almost proof positive of fluid in the pleural cavity, and from whence I aspirated a small quantity. It proved to be pus, and I at once made an incision and evacuated about seventy-five ounces, introduced a tube, and used the same antiseptic solution as in the preceding case.

The patient thenceforward convalesced rapidly, and by June 1 was able to resume labor as a farm hand.

Case 3. H. Mc——, age 23, a United States soldier. I saw him first September 2. Had received his discharge from the army four days before, and gave the following history: Was taken sick with a chill April 1. Was supposed to have pneumonia, for which he was treated at the United States hospital, and afterward discharged as a consumptive. About May 1 he began to spit a thick, yellowish, very offensive sputa, raising perhaps a pint of this a day till I saw him in September. I easily made a diagnosis of empyema of left side. A spontaneous opening was about to take place through the fifth inter-costal space near the anterior mediastinum. I deemed it expedient to make an opening in a more dependent part, and did so, between the seventh and eighth ribs, and emptied the cavity of eight pints of pus. I used the same antiseptic wash as in the former cases.

I will make a few remarks in regard to removal of the drainage tube and constitutional treatment. The first case I kept on alteratives and cod liver oil; the second, having no tubercular history, I put on alteratives only; the third I gave no medicine at all. He was of large physique, weighing when taken one hundred and eighty pounds, and one hundred and six when operated upon. His gain the first five weeks afterward was phenomenal, averaging ten pounds per week.

I feel quite sure that we often derange stomach digestion, and unnecessarily, by a too copious use of alteratives. It is my opinion that in all cases of empyema of any magnitude, that recovery takes place by union of the costal and pulmonic pleura, wholly obliterating the cavity, especially in the diseased area.

I used a drainage tube three inches long in each of the cases. After the cavity was all closed, except the sinus in which the tube lay, I shortened the tube about a half-inch once a week, and by so doing was able to close out the canal from the bottom, thus preventing any possibility of penning up a bit of pus, which would probably result in a relapse of the trouble.

In conclusion, then, it is obvious to me that the secret to the successful treatment of empyema, as well as in all other surgery, is embodied in good drainage and perfect antisepsis.

Diphtheria.

Read before the Republican Valley Medical Society at Concordia, April 4, 1890.

BY B. W. HARRIS, M. D.

Diphtheria is an acute disease, both epidemic and contagious, depending for its source of origin upon a specific germ poison. It is generally characterized by the presence of a special inflammation, and membranous exudation upon mucous membranes, which are exposed to the action of the air, accompanied by enlargement of the lymphatic glands, and great prostration of the vital powers. Changes also occur in the spleen and kidneys, and it is not uncommon for albuminuria to be developed at an early stage of the disease. The tendency to death is by apnœa or asthenia.

HISTORY.

Diphtheria was not unknown to the ancients, and has like all other diseases probably prevailed, and swept away its victims since the human race first came into existence.

Aretæus, the renowned Greek author who lived during the first century, A. D., was the first to give an accurate and definite description of this dreadful malady, under the name of "Syriac ulcer." During the years of 1821-25-26, Bretoneau of France contributed valuable papers to the medical world concerning this disease, and named it diphtherite, because of the membrane found in the throat. In the year 1855, and the nine succeeding years, it prevailed as an epidemic in various sections of the United States. It has since then been classed among the commonly occurring diseases.

For the sake of brevity, we shall not halt to consider the anatomical appearances, clinical history, nor symptomatology.

ETIOLOGY.

Season and climate appear to have no effect in producing or destroying the germ of diphtheria. Although it has been observed to follow an exceedingly dry, hot season, consequently we may infer that the germ being present, such a season may favor the development of the disease. Filth and unsanitary surroundings cannot spontaneously produce the germs of infection, but may, by sheltering and warding off the sunlight and oxidizing influences of the air, act as a "hot-bed" where the germs may multiply and develop into activity.

Children are more prone to infection than adults; a greater number of girls have it than boys; women than men, and the weakened and debilitated of either sex than the strong. A severe attack protects the system from future attacks, but the milder forms may be experienced several times by the same person.

PATHOLOGY.

Diphtheria is a general disease, an essential fever. The local appearances of inflammation and exudation upon mucous membranes are to be considered only as an index, pointing to the poisoned and vitiated condition of the circulating fluids.

In support of this assertion we cite you to the enlarged lymphatic glands; the early appearance of albuminuria; the presence of paralysis during the latter part of the attack; and, lastly, some very severe cases show very little or no diphtheritic membrane in the throat. As to the histology of this pseudo membrane, the microscope reveals its structure as composed of rod shaped bacteria, pus and epithelial cells, and red blood corpuscles, incorporated in a reticulum of fibrillated fibrin. The changes which produce this exudation commence close to the blood vessels and beneath the epithelium of the mucous membrane.

Gentlemen, we all know well enough that the ordinary forms of inflammation attacking mucous membranes do not destroy the epithelial cells, and that they are followed by a mucous, or muco-purulent discharge, while to the contrary the inflammation which accompanies diphtheria, and attacks the mucous membrane, *does* destroy the epithelium, and is characterized by a membranous exudation. Is this not sufficient to show a specific inflammation?

The pathognomonic character which distinguishes the diphtheritic membrane from other pseudo membranes is, that when found adhering to mucous membranes which are covered by pavement epithelium, it infiltrates the membrane and cannot be removed without tearing the tissues and leaving a bleeding surface. But when found adhering to mucous membranes which are covered either by columnar or ciliated epithelium, it can readily be removed without damage to the underlying structures. This readily explains why it clings so tenaciously to the tonsils, pharynx, vocal cords, &c., and why it can be so easily removed from the larynx. Albumen in the urine is not altogether dependent on changes in the blood, but chiefly upon morbid processes in the kidneys. Disturbed vision occurs from the loss of adjusting powers caused by paralysis of the ciliary muscles. First and last the poison attacks and expends its force upon the nervous system.

DIAGNOSIS.

Diphtheria can, as a general rule, be readily recognized by inspecting the throat. If the membrane be not present, the glistening mottled appearance of the mucous membrane, which is more strongly marked on one side of the pharynx than the other, is evidence enough to the experienced. The enlarged lymphatic glands, pain at the angle of the

jaws, dizziness, augmented temperature, great systemic prostration, and lastly, the closely adherent nature of false membrane, leave no room for doubt as to nature of disease.

PROGNOSIS.

No case however mild is to be considered a trivial affection. If the pulse is rapid and weak at the onset the prognosis is very grave. The amount of exudation, so long as confined to the pharynx, has nothing to do with prognosis. It may be abundant in mild cases, or very sparse in severe ones. Should it extend into the larynx, or invade the nares, recovery is very doubtful. Patients seldom survive the disease if the false membrane presents a brown or dark rusty color, or if there be copious or frequently recurring hemorrhages. Pyrexia has no bearing on prognosis, as I have seen patients start out with a temperature of 105° F., and easily pass through all the stages of the disease, and conversely. I have seen severe and malignant attacks where the temperature never to my knowledge exceeded 102° F. Paralysis generally proves harmless unless intercostal muscles become involved.

TREATMENT.

Diphtheria requires both general and local treatment. The general therapeutical indications are of paramount importance throughout. Inasmuch as we possess no specific remedy, the main object in treatment should be to sustain the vital powers, and withstand the encroachment of the disease. A cool and well ventilated room, with perfect quietude of mind and body are essential. Alcoholic stimulants are indicated throughout. Supporting the system with food is one of the most important points to be gained. Pieces of ice held in the mouth often prove most soothing to the inflamed parts. Caustics, or irritating medicines should never be used locally. The less the throat is interfered with the better. Violent efforts to dislodge bits of false membrane by coughing should be forbidden. The infected tissues should be frequently and thoroughly sprayed with some antiseptic solution. Tilden's bromo-chlor. alum proves as efficient as any. From time to time a vast number of drugs have been recommended and highly extolled, but all have signally failed to prove the specific value claimed for them. My limited experience has been such as to cause me to place tinct. chloride of iron at the head of the list of medicines, as I have in several severe cases seen the exudation, swelling and pain disappear in the course of twelve or fifteen hours by administering one drachm of tinct. of iron, largely diluted with water, every second hour. Chlorate potash is beneficial, in so far as it relieves pharyngitis, and stomatitis. Turpentine is much lauded by some, but never having used it cannot recommend it. Mercurials should never be given, and purgatives only under the most guarded circumstances. Astringents prove of little or no benefit. Acidulous drinks should be used freely. Quinia, in the majority of cases, proves advantageous. Pyrexia can best be governed by sponging the body, if not contra-indicated. Should larynx and trachea become involved, tracheotomy should unhesitatingly be resorted to as soon as conditions require it. Paralysis recovers under the use of strychnia and the galvanic battery.

Aural Sequellæ of the Eruptive Fevers.

BY GRANT CULLIMORE, M. D., OF ATCHISON.

Mr. President and Members of the Society:—

I have selected a subject which by reason of recent experiences I am about as well prepared to speak upon as any I might choose, and which also has the recommendation of being practical for the general physician. I shall not burden you with statistics or special theories, but my endeavor will be to emphasize the importance of a subject intimately connected with the general practice but much neglected in the *works* of general practice.

We all know how frequently the mucous membrane inflammations of the exanthematous fevers extends into the nasal cavities and on through the eustachian tubes to the middle ear; the consequent otitis being accompanied by severe pain and perforation of the drum membrane. Of course the latter does not always occur, but the cases in which perforation occurs are the more frequent, and these cases of perforation especially demand our attention. For although suppuration may occur and extend to the mastoid cell and inner

tissues, yet the drum membrane is the first tissue which *we recognize* as affected by necrosis.

The statistics of Belgium show that out of 1892 cases of deafness, 216 followed scarlet fever. Another observer found 144 out of 400 cases due to the same cause. How many cases of chronic otorrhœa with impaired hearing does every practitioner see? These may all or very nearly all be traced to scarlet fever, measles or diphtheria.

But it is not alone these conditions which impair the hearing and render the patient a disagreeable companion in consequence of offensive otorrhœa that attract our attention, but there occur cases of middle ear and mastoid disease which endanger the life of the patient.

I would like systematically to call attention to these aural sequellæ of the eruptive fevers under the following heads:

1. Simple inflammation of the middle ear during the febrile attack.
2. Full developed suppurative otitis media.
3. The development of mastoid disease from this suppurative otitis.
4. Mastoid disease proper with its complications and accidents.
5. Operative procedures.

Of the Middle Ear.—During the period of the most intense inflammation the mucous membrane of the nose and throat in the course of an eruptive fever it is common for the little sufferers to have ear ache, and sometimes this becomes intense and prolonged. When this occurs, the utmost attention from the practitioner is required to prevent, if possible, the development of suppuration with the consequent destruction of the middle ear tissues. In the few experiences I have had at the bedside of children afflicted with scarlet fever, I have learned to await this critical period with a delicate lance—a small Von Græfe cataract knife. When pain is prolonged, I most strongly urge the practitioner to puncture the drum membrane. If pus is present a way out is thus made, and if pus is not yet developed, the depletive hemorrhage that results from this procedure may prevent pus formation. It certainly in most cases instantly relieves the pain, and in no case have I seen harm result.

I would simplify the procedure and have the practioner understand that it does not require complicated instruments, nor even reflected light. The end of the small Von Græfe cataract knife may be wrapped with thread so as to leave bare about $\frac{1}{16}$ inch of the point. The lowest point of the membrana tympana can then be perforated without danger of injuring the tissues of the middle ear. I think pus rarely forms if this puncture is made in time, and repeated if necessary. The instillation of hot water serves as an anodyne, and hot water compresses may be applied with good effect to the entire pinna and mastoid region.

2. *Full Developed Suppurative Otitis Media.*—Pus having once developed, it does not follow that the structures of the middle ear will necessarily be much impaired. If the pus has a continual exit through a small perforation, and if cleansing and antiseptics are resorted to, the chances of a speedy drying up of the pus are very considerable. In the cleansing I would deprecate the use of the syringe, because the force of this instrument tends to drive the fluid pus into and among the cells of the mastoid, and the pain of the operation is objectionable.

We have in the agent peroxide of hydrogen the most valuable of cleansers for small pus cavities, and no where is its value better illustrated than in suppuration of the middle ear.

Almost without the sensation of contact to sensitive and young patients, this agent, peroxide of hydrogen takes hold of pus and brings it to the surface, its action being the liberation of oxygen which unites with the excessive hydrogen of decomposition and the new development being attended by a mild explosion, the debris and pus is forced to the surface.

In the use of hydrogen peroxide it is well to remember its decided acid character. While I formerly used it full strength, I now dilute so as to make a $\frac{2.5}{100}$ solution. Pain often follows the use of full strength solution, and the strong acid is destructive to the delicate bony portions of the partitions of the cells.

It frequently occurs that the pus does not bubble to the surface, and we then know that it has assumed a plastic, cheesy nature, and acts as a blockade to natural outflow. Instead of congratulating ourselves that the suppura-

tive process has stopped, it is better to be guarded and examine for the presence of strings of sticky pus and debris. Especially should we endeavor to keep the way open, if with the stoppage of the flow of pus the child complains of pain.

Pain with cessation of pus-flow means pressure from increasing pus unable to find its way out.

These details of suppurative otitis media may seem unnecessary to many practitioners who have seen cases of suppuration of the middle ear progress to apparent recovery or to chronic otitis media without experiencing mastoid complications. But if these cases are followed up, those in which apparent recovery takes place may, at some future time, be found breaking forth like the eruptions of a volcano which has long been quiet. A severe cold is usually the exciting cause of these eruptions.

The tendency for pus formation has never ceased. The parts have never been thoroughly cleansed of bacteria which remain in necrotic tissue, to development of further suppuration when favorable circumstances present.

Every case of suppurative otitis cannot be prevented from terminating in chronic otorrhœa, but the conduct of the practitioner during the active suppuration will have much to do with the patient's future condition, and with a more thorough knowledge of these conditions and careful treatment offensive otorrhœa will be a rare sequellæ of the eruptive fevers.

3. *Development of Mastoid Disease* from these cases of suppurative otitis is not so infrequent as to merit the neglect of this subject which exists in the ordinary text books. Many times the practitioner fails to recognize the presence of mastoid disease, pains in this region and drowsiness of the child being attributed to neuralgia or some digestive or general derangement. If Fordyce Barker failed to recognize the difficulty in the case of Conkling, certainly the more ordinary doctor cannot be censured too much for a tardy diagnosis, especially under inadequate instruction.

An acute otitis having progressed to a chronic stage, there is no greater security on this account against mastoid involvement. On the other hand I think the danger from this complication greater, even though the discharge of pus from the external meatus is free. The pus of the acute stage is the laudable pus of the writers of but a few years ago. The pus of the chronic stage with its offensive odor is more destructive of tissue. Knapp, Ernst, and others say that all pus is the result of bacteric action. They also agree that bad smelling pus is laudable pus acted upon by still another specie of bacteria—the bacterium saprogenes—and this organism is more poisonous in its effects upon tissue and the blood.

I take from my case book an example of chronic suppurative otitis developing mastoid disease. Miss Nora L——, age 17, has had ear ache at times for four or five years, with continual discharge of pus. Origin, scarlet fever. One month or six weeks previous to my first observation of the case the patient began to suffer pain in the ear. She has been feeling drowsy, and pain has extended over mastoid and temporal regions. There is now considerable swelling behind the ear which seems to be mainly subtegumental though no fluctuation is discovered. An incision over the mastoid—Wilde's incision—no pus obtained. Another and wider incision was subsequently made and the point of a heavy knife cautiously worked into the bone substance. Fully two tablespoonfuls of offensive pus followed the opening of the bone, and relief from all cerebral symptoms was immediate. Here is a case developing a serious mastoid disease after a course of four years of middle ear suppuration.

Before going on to the complications of mastoiditis which render it fatal, I wish to cite a case which illustrates a complication somewhat alarming to the family, but which is temporary if relief is afforded to the mastoid disease in time. I refer to the complication of facial paralysis.

Called in consultation to see a little boy aged six years, just recovered from scarlet fever, suppurative otitis media having followed. An abscess over the mastoid was the occasion of my consultation. An incision through the integument and down to the bone evacuated a quantity of pus and showed the periosteum

to be diseased, the bone being rough. This trouble entirely recovered without any delay or complication. In one month swelling occurred over the mastoid of the other side, and an incision was made. No pus obtained. Subsequent deeper incisions were made and no pus obtained.

The symptoms became alarming, facial paralysis supervening with drowsiness.

The side of the face was much swollen, and the auricle stood at an angle of about 80 deg. At the end of eight or ten days an anæsthetic was administered and a very wide incision made over the mastoid. The point of a heavy knife was used in making an opening into the bone, and pus was finally discovered. This pus was very offensive and thick. It is needless to say that the child grew better immediately. The facial paralysis disappeared.

4. *Complications of Mastoid Disease.*—I will not burden you with anything but mere mention of these with illustration upon the anatomical specimen which I show you.

The most dreaded complications are:

1. Purulent meningitis, or cerebral abscess.

2. Septic phlebitis, thrombosis, embolism, and septicæmia consequent on the extension of the purulent process to the venous sinus on the petrous bone and the sinus of the jugular vein.

3. Bleeding from the ear, the internal carotid artery on the anterior section of the temporal bone or the lateral sinus being evaded.

4. General cachexia by the reception into the blood of septic material.

With this list of formidable complications it appears evident that timely operative interference is necessary to save the child's life and our own credit and this leads us to our last heading, viz.:

5. *Operative Procedures.*—Wilde's incision consists in opening the integument and other soft tissues down to the mastoid bone, and is recommended in those cases of inflammation either in the mastoid process or the periosteum which cannot be allayed by antiphlogistic treatment. Pus is not always found by this incision, but the effect is favorable in depleting the parts and relieving the pain. If pus lies deeper, it may find its way to the surface in a few days and be discharged easily through the opening thus made in the soft parts.

As to the more serious operation of opening the mastoid cells, Politzer says that no one should operate on the living before having performed the operation at least forty times upon the dead subject. When Politzer advised this he had in mind the frequent anomalous course of the lateral sinus.

The external incision should be commenced a little below the attachment of the linea temporalis and continued close to the attachment of the auricle and parallel with the mastoid prominence. Another incision may be made at right angles with this, forming a flap. The periosteum, of course, must be removed from the portion of bone to be perforated. Various instruments are used by different operators in opening the cells. A trephine by some, a chisel by others, and still others use simply a gimlet.

In children I think a heavy, pointed knife, carefully used, is sufficient to open the porous walls of the mastoid cells. In the adult I prefer the chisel.

The line parallel with the external meatus is the guide for directing the instrument.

Chronic Ovaritis.

Read before the South Kansas Medical Society at Rock, Kansas, November 13, 1889.

BY H. F. HORNADAY, M. D.

I give the early history of this case, as I gathered it from the patient, Mrs. R——, aged 35, married 14 years, has never been pregnant, form well developed, weight in health 135 to 140. She had been, by nature, endowed with a good, strong and vigorous constitution, and had enjoyed good health until about ten years ago, when she had a very severe attack of peritonitis, or, as the patient expressed it, inflammation of the bowels, which yielded very slowly to treatment. After recovery she enjoyed her former condition of health to a fair degree for some six months, when she began to suffer with acute and very severe pains in the region of the right oviary; at first, at or near the approach of each menstrual epoch, but after a time the recurrence was more frequent, and according to the history given by

the patient the attacks occurred with less regularity, and at intervals of from two to four weeks, for some five years. At the end of that time, she, with her husband, moved to this state. The change of climate and surroundings seemed for a time to prove most beneficial to the health of the patient, and she was made to believe and rejoice in the thought that she had been freed from her former trouble, that had made life a burden to herself, and a source of great anxiety to her friends.

During the first two years of her residence in this state she was comparatively free from pain, or any symptoms of her previous ailment. Then followed, at irregular intervals, warnings that aroused suspicions of her old trouble, and as time passed these admonitions became more marked and more acute in their onset.

On February 9, 1888, I was called to see the case, and made my first personal observations. I found the patient suffering with intense pain in the right inguinal region.

The case has been most interesting to me on account of the nature of the pain, and its persistency, which was described by the patient as "a sharp cutting pain, as if a knife was being inserted into the parts." While she suffered more or less all the while, yet the pain was quite spasmodic in its nature; and during the severe spasms, which lasted from fifteen minutes to one hour, the deeper abdominal muscles would contract immediately over the ovary, and there was a resemblance, by palpation, of an ovarian tumor the size of an orange. With the partial cessation of pain the muscles would relax, and little traces of anything resembling a tumor could be discerned.

This attack lasted, with various remissions, about five hours, notwithstanding large doses of morphine hypodermically had been given at short intervals, without apparent effect, until chloroform had been administered by inhalation, when the pain ceased as suddenly as was its onset, when we discovered that we had all the effects of morphine that we cared to have. When the suffering was most severe there was, on the part of the patient, a great inclination to make strong pressure over the ovary, yet the pressure did not afford any perceptible relief. During the two or three days that followed she complained of much soreness across the abdomen, especially on the right side. There was considerable nausea and vomiting, doubtless due in some degree to the free use of morphia. There was much pain in voiding the urine, as was the case after all subsequent attacks, and quite often was the catheter called into use. You will please remember that this was midway between the periods of menstruation. Again, on March 8, just four weeks later, I was called, and found the patient suffering as before. Possibly more intense was the pain, which yielded to the same treatment, or I should say, ceased after about the same lapse of time leaving the patient much as before.

After a few days of rest an examination was made, per vagina, of the pelvic organs. The external os was so small that it was with difficulty that a small sound was introduced. The uterus was much antiflexed. The uterine canal was much elongated, while the lining membrane was very highly congested. The right ovary was somewhat enlarged and extremely sensitive to the touch, while an upward or backward pressure caused severe pain. There was also some soreness of the left ovary.

By careful manipulation a small metalic dilator was introduced, the cervix well dilated, a mixture of iodoform and glycerine applied within the cavity of the uterus by means of a flexible applicator.

This treatment was given twice each week, except during menstruation, while the application of counter-irritants was freely made externally over the ovaries. A free use of hot water thrown into the vagina through a syringe, twice daily, followed by an injection of Loyd's fluid hydrastis, was ordered. Pyrophosphate of iron and hypophosphite of soda were given internally. While this treatment was attended with results that were to some degree satisfactory, the menstrual flow, which had always been regular in its appearance, yet painful and scant was free, and gave less distress and anxiety. Yet the most perceptible change in the periodical attacks was, that they recurred more frequently, and assumed a greater degree of severity.

As the warm weather approached the system seemed to lose force and vitality, the appetite failed, the flesh became soft and flabby, the skin assumed a pale and sallow appearance, the nervous system became weak and irritable, and the countenance gave evidence of great suffering and anxiety. Instead of once each month, the periodical attacks of suffering recurred as often as every ten days, even twice in one week, lasting from six to ten hours, much as I have endeavored to describe them.

By the continued use of blisters over the ovaries and along the spinal column, and a free administration of nerve tonic, and with the advent of cooler weather, I was pleased to note a marked improvement in the general health of my patient, yet the attacks of unmitigated suffering continued to recur at irregular intervals.

The question would naturally arise in the minds of many, why was not prompt and immediate relief afforded? I can assure you that I drew heavily upon my stock of knowledge of materia medica, and I failed to find a medicinal agent that gave results that were at all satisfactory, except chloroform, and after its frequent employment in this case I was not pleased with the symptoms produced by it, and abandoned its further use in the case.

I had frequently advised ovariotomy, which was finally decided upon, and on the third of January last the patient was placed under the influence of an anæsthetic, composed of three parts ether and one part chloroform, and an abdominal section was made. An extensive adhesion of the omentum to the abdominal wall was found to exist, and an incision was made through the omentum. The right ovary as well as the broad ligament, was adhered to the wall of the abdomen, from which they were with difficulty detached. The ovary was enlarged, and a number of small granular cysts were under progress of development. The left ovary was larger than the right, and with a small cystic tumor the size of a hulled walnut adhering, which ruptured during the operation.

Both ovaries, together with the ligaments, were removed, the abdomen closed and dressed antiseptically, and in fifty minutes from the time the patient was laid on the table she was dressed and put to bed. The temperature of the room during the operation was kept at 105° F., and no perceptible shock followed. There was a slight elevation of the temperature of the body for five days, when it became normal, and remained so. Only on the third day did it reach 100°, and then only for a short time. For many days after the operation the pulse was very slow, but full and strong, ranging from 58 to 62.

Immediate union was had, and on the sixth day the stitches were removed, the bowels moved by enemata, the patient called for food, and has continued to improve, until now she enjoys good health. After taking unusual exercise she sometimes complains of soreness of the abdominal tissue, due, as we believe, to adhesions. But she has had no symptoms of her old trouble, and again thinks life worth living. The uterus has very much decreased in size, and has assumed its normal position.

For valuable services in this case we are indebted to Dr. Emerson, by whose skillful hand the knife was successfully guided. And the treatment of this case by the knife, which we believe the only rational treatment, has been attended with results wholly satisfactory to all parties interested.

Valedictory Address.

To the Graduating Class of the Medico-Chirurgical College, at Philadelphia, Pa.

BY JOHN V. SHOEMAKER, A. M., M. D.

ADVICE TO YOUNG MEN BEGINNING THE PRACTICE OF MEDICINE.

Guests, Colleagues, Members of the Graduating Class:

From time immemorial there have been certain recognized periods for the giving of advice. The first of these is when youth, of whichever sex, leaves the direct parental guidance for more or less dependence upon its own resources. The second we have reached, when a band of teachers, well named a faculty, if their profession is not false, assumes the right through one of its members to pronounce a valedictory to a departing class of

students, in which he shall briefly speak in the light of experience to those without it, who are about to enter upon the path which they must otherwise travel unguided, until, from their own experience, gained through men and books, good and evil fortune, weakness and self-restraint, they shall have reached the goal whither their moral and intellectual nature, affected by circumstances, but chiefly determined by greater or less strength of purpose, shall ever from the first have tended.

An address of this sort should be brief, under penalty of boring. In being brief, however, it cannot hold the cosmogony, even were the speaker capable of presenting it. In speaking for myself and my coadjutors of the faculty of this institution, I do not profess to treat of more than a few points to which I think it well to call your attention in the flattering presence of this great mixed audience.

Morality is the basis of eventual success. By morality I do not mean the mere negative, outward observance of the laws of nature, but cultivation of the positive virtues which represent resistance to temptation and to the inroads of whatever tends to excess.

The poet said not truly when he wrote:—

> "Vice is a monster of so frightful mien
> As to be hated, needs but to be seen."

On the contrary, there is scarcely a vice that does not present itself in alluring form. Nor is the poet's following thought any nearer to the truth:—

> "Yet seen too oft, familiar with her face,
> We first endure, then pity, then embrace."

It is not true, because experience shows that there are none but the lowest and most depraved, unless congenitally so, who do not detest their bondage beyond all measure to be conceived of by those who have never become slaves.

Ways of pleasantness, not those of pain, are those that lead to vice, and therefore, as youth naturally seeks pleasure as the plant stretches upward toward the light, youth should seek early to distinguish the ways of pleasantness that lead to peace from those that lead to careers cut short, lives blasted, and misery sown broadcast among those innocent of harm. Medicine, as well as law and every other profession, is a jealous mistress. All professions are jealous of any pursuits except those which accept relaxation for the better continuance of life-work.

Many of you young men doubtless start on your careers thinking that such have been the discoveries, such the development of the last few years,—especially of the last fifty,—that you have little to hope for in discovery, origination, or even in development in our science and art. And yet you have seen, within your own few years of observation, the science and art of medicine steadily progressing, and, as if by a miracle, one theory—that as to microbes—rising into prominence great enough to generate the disease of microbephobia.

There is no reason to believe, whatever the duration of the earth, that within the small portion of the universe presented to our investigation there will ever be dearth of things worthy of discovery. Now, especially, are mankind well placed for the rapid multiplication of discoveries, in having two working bases, in the law of the correlation and conservation of force, and in that evolution, whatever final limits and qualifications may be imposed upon and assigned to the latter agency. Where could we stop if we pretend to enter upon a review of the marvels of discovery of the present age? Lose not sight of the circumstance that one great factor in this progress, never existing before, lies in the present attrition of mind with mind through the intercommunication of men over the whole surface of the globe.

I will point you to a field where much remains to be discovered and employed in the interest of humanity—electricity. Charlatanism in this branch of therapeutics is out of all proportion to the regular scientific employment of this remedial agent. For one Apostoli, how many empirics are there in the field? And even Apostoli is chiefly noted for one kind of application of electricity. I make bold to say that the next few years will bring forth wonderful advance in the knowledge and the application of this agent. I think that but few persons realize to what degree we are dependent upon electricity in our daily lives. We picture ourselves to ourselves as plunged and living in an atmospheric sea, where the

changes in our feelings are ascribed to one or other direction of the wind, to more or less coincident cold, to more or less coincident dampness. All these things are true; they are proved, undeniable; but may there not be something else besides heat, light, and those other conditions, which, as much as any other one factor, may determine our health and our sensations of well or ill-being, and may not that factor be electricity? If, as has been found in one place from actual observation, deviations from the electrical mean fine weather potential of the year, represented by X 4, reach = 20 or =30, and, with high wind and frost, even above X 100; In thunder-storms sometimes exceeding = 100, and (although rarely)—200 (negative potential being usual in thunder-storm,)—in what an atmosphere must we not confess that we live?

I promised brevity, so I must turn to another subject. Let me suggest to you, in passing, to some of you who may become experimenters, that an incident of your work be made to relate to the development of electrotherapy.

While professor Jastrow has settled once for all that spiritualism has lost its hold on the credulity of mankind, the world has never before proved itself fuller of faith in it under some form or another,—faith in the existence, close contact, and communication between this and the world of spirits. Why, have we not even spiritualistic medical practice? Have we not Faith Cure, and Christian Science, and Mediumistic Medicine?—Molochs all that demand their palid, if not their bloody victims.

Has science aught to do with acceptance or denial of these things? Spiritualists say, no. Scientific men say, yes. Science is right. Science could have naught to say if the faiths rested on things purely spiritual. But phenomena, from the very fact that they are phenomena, are an appeal to the senses.

If the teachings were purely spiritual, George Washington might be never so contradictory in his communications, and Franklin might, as usual, drivel; science could have nothing to say about the matter. It would be one for treatment merely by common sense. But when spiritualism is presented by its devotees to the gaze of science in the guise of phenomena, science has the right to investigate those phenomena, and pronounce upon the realities behind the phenomena. If I, a grave and reverend professor, could, under severe provocation, so far forget my dignity and the respect that I owe to myself, to my colleagues, and to this institution, as to kick an obnoxious person, that would undoubtedly be a phenomenon of spiritual manifestation. But, as a medical professor, psychologist, and student of anatomy, I should prefer to ascribe the action of physiological prompting and muscular ability. Now, if I had executed this feat behind a screen, from which my adversary was projected into a half-lighted room, faith would have considered the phenomenon wholly spiritual, while in the light of day, on the street, the only mystery would be if I were not arrested. If one of the Fox sisters could, as she did about a year ago, prove that it was by cracking the joint of her big toe in times long past that her fame extended around the globe, and thousands of other spiritualistic imposters have been discovered or have revealed themselves, I may be permitted to doubt the truth of spiritualism.

The absurdity that lies at the root of spiritualism is the claim that its phenomena are not to be rigorously treated, as other phenomena are which are subjected to investigation, but are to be treated gingerly, with certain limitations as to scrutiny. Faith does not require demonstration of truth, because it has accepted as truth the thing proposed. Those who have faith, therefore, yield observation without examination of the phenomena, while to those without faith all rigid examinations of the phenomena is denied. Consequently, what is the use of the phenomena, if they are unnecessary to faith, and if they are not fully open to examination by disbelief? Direct revelation, without the interposition of phenomena, would be much more satisfactory if it could only be made a little more accordant than heretofore in its utterances. We doctors, however, can rest satisfied, even if debarred from spiritualistic promptings; for we may, without vanity, be very sure that the medical advice to be at present procured on earth is rather in advance of any that could be secured from the silent majority.

Strangely allied in the popular imagination

(although having no relation to it) to this increasing belief in spiritualism, which is now represented in the world by over a hundred journals, is the curiosity about hypnotism and mind-reading, separately or conjoined. Now, I have not the intention, as you may well suppose, to dispute that there is such a thing as hypnotic sleep, and that the thoughts of a waking person may be transfused into the will and action of the sleeper. Why, physiologically, should it not be possible? We have, besides, proof that thought and actions are often so communicated. Neither do I dispute that there is, in a qualified sense, such a thing as mind reading. We are all, even to babes, more or less physiognomists, and learn from the earliest age to read the language of the face. We learn even a less-developed language than this,—that of attitude and action, and even attitude as portending action; as, witness for a single instance, the pose of a man about to sieze something from the ground to hurl at an adversary. Though he is momentarily still, his adversary sees from his attitude what is coming, and prepares to avoid it. In many ways, so subtle that they elude our immediate recognition, we are all constantly engaged in mind-reading. But, when I am informed, as a letter from London once narrated that the hypnotist, Fletcher, left an assembly while a young man was playing the piano, and as he passed out of the hall handed a paper to a person present; and when, in four minutes, the music ceasing, despite the will of the performer, and the paper being opened, it was found to be inscribed with the figure 4; when, I say, I am informed of a thing like this, I say *collusion*. When to a gentleman in the audience expressing his doubts, Fletcher said, "rise," and it is alleged that he could not rise, I say transparent *collusion*.

Why do I say collusion? Because I have lived long enough to deny certain things that other persons readily accept. I have heard a young lady say that she could raise a piano by making her fingers hover over it. I asked her why she ever engaged a porter. She had not thought of that. I have, in the presence of an audience, tied behind his back the hands of a celebrated mind-reader and performer, while he whispered to me not to fasten them so tightly that he could not disengage them. Yet I, as a physician, do not dispute—I, as a physician, should be one of the last to dispute—that a person of strong mind and will may compel a weak-minded person to do all sorts of things. But it must be through the vehicles of sense that he acts—through no telepathy. There is no telepathy beyond hearing, eye-sight, and touch. Who shall, however, within these limits, prescribe bounds with which one strong nervous system may not influence another through mind and will? Not I, certainly.

Allow for a factor in deception, not sufficiently taken into account, the strange love of notoriety among human beings, leading the weak-minded, especially, to lend themselves to fictions for the sake of prominence, or else to actions of the greatest absurdity, if they only secure attention. Have I not seen two urchins on a gutter-side, when finding themselves under observation, immediately proceed to wash each other's faces with dirty water, with no further recompense than the favor of my presence at the performance? Have not we physicians ample knowledge of the lengths to which simulation will go for the sake of mystery, and that, too, in what does not seem to be disease in the ordinary acceptation of the term? And, in the border-land between health and disease, do we not often see the cunning of hysteria, and that it is distinctly amendable to inner and outer will? But we do not happen upon the weak-minded and hysterical in an assembly of notables in London, and therefore I said, as to Fletcher's performance, *collusion*. Hypnotism, spiritualism, esoteric Buddhism, being fads in London, with much else, it is easy enough to obtain there persons representing the supply of proof for the general public demand.

What I, as your deputed honored counsellor on this occasion advise, is continuous effort in life. It will inure to your own advantage and to that of your chosen profession. I may be permitted to speak of myself so far as to prove that I do not preach what I do not myself practice. I shall not attempt to recount the many directions in which I have evidenced my faith in works. Suffice it to say that, while technically a specialist, I have ever

avoided confining myself within the bounds of specialism, sure that no specialty whatever can stand solitarily and securely alone. Realizing that upon the education of the laity the success of the best practice of medicine ultimately rests, just as charlatanism conversely rests on the promotion of ignorance, it has been my aim at all times to communicate such sound information to the laity as they are capable of comprehending. The chief hold that homœopathy has, is derived from ignorance of fundamental principles, and its invitation to the ignorant among the laity to play baby-house in sickness, which may begin with what is thought a trifle, but may end with death. I have in preparation now a work addressed to the laity, giving in popular form sound ideas as to all that conduces to well-being. If I intend that it shall be entitled "Health and Personal Beauty," my ulterior intention will be fully revealed when it is found from the text that I regard the art cosmetic as chiefly nature's art, and health, beauty, and mind, conjoined, as representing the highest being, conditions which, if life were ideal, would be one and indivisable.

All is not lovely in our profession. If it were, where would be the crown? There are patients who are stupid, who are weak-minded, who disobey, who neglect the *honorarium*. But no physician, I am satisfied, can be truly good unless, as well as those whom he treats, he be patient. Brillat Savarin draws a beautiful picture of an ideal practice when he says: "If I had been a graduated physician, I would, first of all, have written a good monograph on obesity. Then I would have immediately established my empire in that nook of science, and I should have had the double advantage of having for patients the healthiest people, and of being daily besieged by the lovelier portion of mankind, for to have just the right amount of plumpness, not a whit too much nor too little, is with women a study of their lives. . . . That which I have not done, some other doctor will do; and if he is at the same time skillful, discreet, and a good-looking fellow, I predict for him a marvelous success."

But, gentlemen, that does not describe the practice of medicine. It is the aspiration of an epicurean for an easy time and plenty of renumeration. As an epicurean, Brillat Savarin, who was also a man of distinguished ability, would have found the sameness too great in his proposed experiences. Variety, you will find to be, ever in labor, some refreshment to the weary worker. Expect your difficulties. It is through them men are molded. Look forward to a worthy goal. It will lesson your trials and reward your success.

In concluding my address, I deeply regret to announce to you that Prof. James Garretson, your eminent Professor of Oral Surgery, whom we all love and venerate, and who occupies a warm and dear spot in all students' hearts, retires from his active duties. His name, however, has been, and will continue to be, quoted and lauded in our college halls, as a great thinker, a skillful surgeon, and a careful and precise teacher to the future doctor of medicine. In addition to his other exacting work, Dr. Garretson has always been a decided advocate of professional progress, and has accomplished much for his profession by his choice contributions to medical and scientific literature. I therefore, in behalf of my colleagues, upon this occasion tender to our distinguished and only emeritus professor our wishes for his future health, peace, and happiness. May his life be spared many years, and may he be enabled during his allotted time to continue to give his adopted Alma Mater his wise counsel.

Gentlemen of the graduating class, I bid you farewell. In leaving us, I trust that you will not fail to cherish in grateful remembrance your Alma Mater, that you will look back upon the time that you have spent here as having been fruitfully spent; that honor, comfort, reputation, happiness, may attend your way. When you think of us, your late preceptors, we trust that it will be with the friendliness that we feel for you. We have striven to do our duty by you; to give you, during your three years' course, the most thorough grounding for your future medical career. The rest remains with youselves to accomplish. We cannot part with you without sadness at the thought that our pleasant daily relations with one another must now be severed. We are only consoled in looking to you to shed lustre upon this, the institution

of your choice. Gentlemen of the graduating class, I bid you, in the name of my colleagues and myself, with every wish for your health and happiness a regretful farewell.

Delivery of a Retained Placenta.

A Clinical Lecture delivered at the University Hospital.

BY WILLIAM GOODELL, M. D., PHILADELPHIA.

GENTLEMEN—The case that I have to show you to-day is most interesting, because it is a most practical one. It is this: A woman, thirty years old, married for thirteen years and with four children, miscarried one year ago, at the end of a three months' gestation. The physician in attendance at the time frankly confessed that he could not remove the afterbirth. It never came away; and she has since been losing blood off and on, more or less, until she is now, as you see, quite bloodless and very pale. Yesterday my son tried to measure the womb with the sound, but its introduction was at once followed by such an alarming flow of blood that he was forced to plug up the cervical canal and tampon the vagina. He tells me that the womb measures over four inches, and that the hemorrhage was the worst that he ever saw, excepting in some cases of post-partum flooding. What is the diagnosis? Clearly that within the womb is imprisoned a placenta, so vitally attached to the uterine walls that it has not decomposed. Of this I am certain: firstly, because the history points to this interpretation; secondly, because so alarming a hemorrhage followed merely the use of the sound; and thirdly, because I have repeatedly had just such cases.

Now, what should the physician have done under the circumstances? By hook or by crook he should have removed the placenta. By aid of ether he could, using every antiseptic precaution, have caught one lip of the cervix with a volsella forceps, dragged the womb gently down, and passed in one finger at least into the uterine cavity. He could then have scraped off the placenta and membranes. Or, if that did not succeed, he should have introduced a blunt curette, or preferably, this fenestrated polypus-forceps, which I show you, and twisted off the now foreign body. Or, indeed, if he had not this instrument he might have plugged up the cervical canal with iodoform gauze, or with a linen handkerchief made aseptic by being boiled; or he might have tamponed the vagina. In my experience both these measures would have speedily detached the placenta and hastened its expulsion.

You may tampon the womb up to the fourth month, because this organ by that time is not large enough to contain sufficient blood to destroy the mother by concealed hemorrhage. But if four full months or more have elapsed since the beginning of pregnancy, the womb has become capacious enough to hold so much blood that the woman may bleed to death in it, although no blood may escape from the body. I, indeed, have never tamponned after three months, but I think that desperate cases of flooding after that period of gestation might occur, in which the physician would be justified in packing the womb itself, when everything else failed. It is related by Joulin, I believe, that, in the days of knee-breeches, shoe-buckles and gold-headed canes, a physician finding a post-partum hemorrhage uncontrollable, pulled off his powdered wig, crammed it into his patient's uterus, and saved her life thereby.

The question now arises: Why is a miscarriage more dangerous than a natural labor at term? The answer is, because the very fact of a miscarriage implies some lesion—something abnormal; because, the placenta not being fully formed, the chorion villi are attached to the whole surface of the womb and some portions of the membrane are liable to remain behind and cause either hemorrhage or septicæmia. Then again, the cervix is not effaced, and the small canal is liable to close up on the retained fragments. A criminal abortion is still more dangerous, because gestation is abruptly interfered with before any detachment of the membranes has taken place, and their retention is therefore far more likely to happen than in an honest miscarriage. A stung or decayed apple falls from its bough at the slightest breeze; while to pull off a healthy green one, demands a

force which often snaps the bough from which it hangs. This illustrates the difference between a natural miscarriage and a criminal abortion. In the former, the process of detachment is slow and usually complete. In the latter, the detachment is violent, incomplete and traumatic. The result is, retention of the membranes, from which come serious hemorrhages and still more serious septic infections. Should the patient fortunately escape these, she hardly will escape an arrest of involution, and its resulting discomforts.

But to come back to our patient, who is now wholly under ether. What is the present state of affairs in the womb? Taught by several very alarming experiences, I can tell you exactly what it is. The placenta will be found perfectly sweet, rolled up at the detached end through pressure, like a scroll, with a large portion adherent to the uterine wall, and fed by sinuses of great size. Now, the sound which my son introduced probably pushed only one limited portion of the placenta off from a single uterine sinus, yet the flow was excessive. Three times have I passed a blunt curette in the wombs of just such cases, and the hemorrage was so terrific that I had to resort to the promptest measures for its arrest. One case was an inmate of my private hospital to which she had been brought on account of repeated and exhaustive hemorrhages, dating from a miscarriage which occurred five months previously. She was placed on my examining table, and, as I found the cervical canal too narrow to admit my polypus forceps, I passed in a curette. Directly there occurred such a formidable flooding that although surrounded by every appliance for such an event, I was not able to control it, until she had lost so much blood as to faint away and to make me very much alarmed about her. I stopped the flow by plugging up the cervix with a sponge. A few days later I dilated the canal with tents and removed a perfectly sweet fragment of placenta as large as a small apple.

The curette acted merely as a hook to lift up the placenta, uncorking, as it were, the uterine sinuses, but it was not able to remove so large a mass, which, consequently, remained in the womb and kept these uncorked uterine sinuses from contracting; hence the hemorrhage, which in this case was equal to the most formidable post-partum flooding. I know better now than to use the dangerous curette. What one needs here is an instrument which shall both dislodge and *immediately* remove the offending body. This instrument is the aforesaid fenestrated polypus-forceps, which has no teeth yet holds securely; which will catch an unsuspected intra-uterine polypus or a retained placenta with more safety than the surgeon catches at hap-hazard a stone in the bladder.

Introducing my base-expanding bivalve speculum, which well exposes the cervix, I remove the sponges packed into the cervical canal and vagina by my son. The parts are now thoroughly disinfected by repeated injections of 1.2000 solution of corrosive sublimate. Seizing the anterior lip of the cervix, so as to steady it, I introduce the polypus-forceps into the uterine cavity, immediately open it, and now I have caught something. Withdrawing the forceps with a twisting motion I find a large placental fragment in its beak. The hemorrhage which began briskly has already become less by the rapid contraction of the uterine walls. Passing in the forceps a second time I remove another piece, not quite so large as the former one. Continuing the search I find other pieces, all of which will be passed around, so that each one of you can see for himself the placental character of this false polypus. Note how free from all decomposition the mass is, although very near a year old. Having emptied the womb I syringe it out, first with vinegar to cause the contraction, and afterwards with a 1.2000 bi-chloride solution. There will be no future hemorrhage, so not any kind of tampon will be needed. To insure continued uterine contraction she will be put on quinia and ergot. Her vagina also will be syringed out twice a day with a 1.4000 solution of corrosive sublimate.—*Practice, Richmond, Va.*

It is estimated that man gets a complete outfit of brains every two months. If the average life of a nerve-cell is from two to three months, we would each get six new brains every year, providing that every cell is replaced in the same length of time.

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TOPEKA, KANSAS, JUNE, 1890.

Railway Hygiene.

Since the neigh of the iron horse is heard all over the land and every considerable city is a railroad center, with a large proportion of the people continually on the cars, railway hygiene has become an important factor in life.

Whilst our great roads have done much to make travel comfortable and healthy, much remains undone. Even the Pullman and the Wagner, with all their luxuries, can be improved. Comfortable and healthy during the day, when night comes they button you into a space some three feet broad, three feet high and six feet long, where for eight or ten hours with a temperature ranging from 70° to 90° F., you are compelled to live on 54 square feet of air. In the morning you feel that you have not been well nourished, and realize that want of oxidation, rather than the novelty of sleeping on the rail, or the snoring of an uncomfortable neighbor, caused your restlessness, and, perchance, your headache.

The double deck arrangement is bad. Until it can be remedied those who can afford it, and especially invalids, should take a section leaving the upper berth unopened.

If you suffer from foul air in a palace, what of a second-class car, where —— are crowded into —— square feet of space? With its oxygen largely consumed and its atmosphere loaded with the odors of all sorts of people, as you enter from the pure air without you gasp for breath and feel that it is unendurable. If you raise a window, the poor fellow next to you, whose carbonized blood is readily chilled, begs you to close it. With the wide range of adaptation inherent in the human body, you soon become accustomed to your surroundings and, perhaps, as your circulation becomes loaded with effete matter a chilliness creeps over you that impels you to ask the conductor to close the last opening where oxygen can enter and carbonic acid gas escape.

A better system of ventilation is demanded, one that will remove the heavy carbonized air that surrounds the passenger and replace it with pure air from without. Opening a window is no remedy, for the draft it occasions may be more deadly to some debilitated passenger than impure air.

The water closet on many roads and on some of the cars on most roads is simply horrid, often contaminating with its poisoned air the entire car. The urinals may be well enough for stationary closets, but on a moving car they permit the floor to become saturated with a foul excrement.

The draft at the seat is decidedly harmful to certain persons. To protect them from this, and those along the line of the road from discharges that may communicate disease and engender wide-spread epidemics, there should be a cup on the lower end of the pipe, so arranged that it can be opened whenever desirable and the contents emptied at proper places. There should also be ventilating openings in the pipe, and disinfectants and deodorizers ready for use.

The railroad management seems to consider its special relation to the passenger only exists while he is in the cars, and whilst it seeks to make him comfortable there, its depots for exchange are the embodiment of every discomfort. Who can pass through a crowded union depot, especially at night, and see tired children stretched upon the dirty floor, and weary mothers trying to rest on its iron-barred

seats, while they wait, one, three, five, seven hours for a connecting train, without a feeling of sadness? Are not these people, *ticketed through*, as much under the care of the roads while they await their connections at the depot as when on the trains? If so, why this contrast? These depots as at present conducted are only fit for the dissemination among the tired travelers of such contagious diseases as may be en route. Why not have at least a well ventilated "chair room" into which a through ticket will admit a waiting passenger as readily as it admits to his train?

Every train should carry a strong rubber bandage and a tourniquet, absorbent cotton, and linseed oil, made creamy with white lead, and a stretcher, and to every train man should be given the few moments necessary to instruct him in their use. W. L. S.

Aconite.

Aconite is a drug found in almost every doctor's case, be he regular or irregular. Many think they could as well dispense with their thermometer or hypodermic syringe, as with this potent drug. For a potent drug it is, and in my opinion, should *never* be given except under the immediate supervision of a competent physician who should remain with the patient from the moment of its administration until the effect of the drug has disappeared.

Let us look at the physiological action of aconite. Its action is on the peripheral ends of the sensory nerves, on the heart, and on the respiration. First noticed on the tongue, lips, finger tips, face, breast, abdomen, and last the back. And the heart is quickly affected by very small doses. In children, even a single drop of the tincture may cause great depression, slowing the heart's action due to the effect of the drug on the vagus roots, but in some cases the action of the heart is not affected so much, aconite being uncertain in its action. And if the administration be pushed, we will have paralysis of the vaso motors, the blood pressure will be lessened, followed by slow action of the heart, soon to become feeble and irregular. When aconite is given in the febrile diseases, the purpose is to lessen the blood pressure, slow the pulse and reduce the temperature. When this is accomplished, we have, in the great majority of cases, done more harm to our patient than good, for the reason that will be plain when we see that the effect is to weaken the nutrition of the whole organism, and suspend almost entirely the nutrition of the nerve centers. How often we have seen patients that have been under the influence of aconite until the constitutional effect has been produced, with livid color of skin, imperfect respiration, feeble, irregular pulse, on the verge of convulsions because of the peculiar effect upon the spinal cord and medulla.

The cases in which aconite is generally administered would be much better treated without it. Physicians should not leave aconite with the directions so often given, viz.: "Give a dose every hour until the fever falls." If the physician thinks aconite absolutely necessary, he should by all means remain and watch the effect, that he may be at hand to mend the mischief he is very likely to cause.

It is our opinion that the time is not far distant when the treatment of febrile diseases will be conducted upon a more rational plan, we might say upon a physiological plan; and we are glad to note as symptoms of this reform that the use of antipyretics is fast falling into "innocuous desuetude," and that reliance is not placed on those drugs that induce pathological conditions, but on those whose office is to restore function and assist in the process of nutrition.

We would emphasize what we have said by adding that in the treatment of febrile diseases of children the use of aconite should be avoided. S. G. S.

Dr. George W. Millbr, of Girard, Kas., was a caller at the Journal office recently. The doctor just returned from New York City where he has been during the past six months, attending the Polyclinic Post Graduates school and hospital. The doctor, like many other Kansas physicians, proposes to keep ahead of the times in medicine.

The J. Marion Sims Medical College of St. Louis is one of the latest.

A Lame Law.

THE JOURNAL is in receipt of the following questions:

"Has Kansas any medical practice act, or law regulating qualification?"

"Is there any law regulating physician's fees?"

The legislature of 1879 enacted the following law:

"It shall be unlawful for any person within the limit of the state of Kansas, who has not attended two full courses of instruction, and graduated at some respectable school of medicine, either of the United States or some foreign country, or who cannot produce a certificate of qualification from some state or county medical society, and is not a person of good moral character, to practice medicine in any of its departments, for reward or compensation, for any sick person in the state of Kansas; *Provided*, that in all cases when any person has been continuously engaged in the practice of medicine for a period of ten years or more, he shall be considered to have complied with the provisions of this act; and that when persons have been in the continuous practice of medicine for five years or more, they shall be allowed two years to comply with its provisions."

Of this law the late Attorney General Bradford gave the following opinion:

"In prosecution under chapter 68, laws of 1870, *it will not be necessary for the state to prove*, in the first instance, that the person charged has not attended the full course of instruction and graduated in some school of medicine. It is a rule covering the admission of evidence where the special matter of a negative averment lies peculiarly within the knowledge of the other party, *the averment is taken as true unless disproved by that party*."

While this opinion will hold in civil cases, in criminal the courts of Kansas hold otherwise, and it would be practically impossible to prove that a practitioner has not graduated somewhere, or that he has not a certificate of qualification from some medical society, or that he has not been in continuous practice for five or ten years.

But if the accused was not considered innocent until proved guilty, this law was evidently intended to deceive. While it would seem to prevent ignorant pretenders from tampering with the lives of the people by providing for graduation, after two full courses, at some respectable medical college, it also provides that a certificate from a medical society is equally good evidence of qualification, though the medical society might have been composed of men without qualification or character, and organized for the express purpose of issuing certificates.

There are no legal regulations governing fees. Medical services usually bring what they are worth in the market, or what the party rendering them believes them worth.

Regular medical associations usually comply with Article VII. of the Code of Ethics:

"Some general rules should be adopted by the faculty in every town or district, relative to *pecuniary acknowledgments* from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit."

It is presumed that the members of these societies appreciate "a point of honor."

Having answered our correspondent's queries, we add a few suggestions. While every one may appreciate the fact that a knowledge of the art and science of medicine is a necessary pre-requisite to successful practice; that

> "A wise physician, skilled our wounds to heal,
> Is more than armies to the public weal,"

and that the people, ignorant of the qualifications of physicians, should be protected against incompetent pretenders, as the intelligent physician most fully recognizes the importance of such protection, though his motives may be misjudged he should persevere in his efforts to secure such legislation as will protect the people against disease and quackery. Kansas has never had a law looking to the health of the people that did not bear upon its face evidence of inefficiency or fraud.

The law we have quoted was not intended to protect. The law of 1879, making three boards' of examiners, with concurrent jurisdiction, was pronounced unconstitutional, and the act creating a state board of health gives it only advisory authority.

There is in every representative and sena-

torial district enough intelligent physicians, with an influence among the people that, properly exercised, would secure legislators who would listen to those whose education makes them competent advisors.

Let every county and district society discuss this matter, and every physician use the influence he possesses, and Kansas will cease to be the haven of incompetents. As Virginia, Minnesota and other states have abundantly demonstrated, every state should pass upon the qualifications of those who assume the care of her sick.

Every physician should demand of his representative legislation in the matter of fees. You may ride day and night, and tax both body and mind to their full power of endurance, but the law decides it is not labor; and from half the people you attend you cannot collect a bill by legal process; but if you put a bill into the hands of an attorney for collection, his work is labor, for if he chooses he can file a lean upon your judgment for his services, and he will consider collecting more valuable labor than curing at best. Every physician must render a large amount of gratuitous, charitable service. The law should provide for the collection of bills from those who are able to work and pay.

We would suggest that a slight change, which the legislature could easily be induced to make, would make the law of 1869 practical, and secure fair protection to the people against ignorance and quackery. Strike out the clause providing for certificates from medical societies, and require those possessing a diploma, or having had ten years of consecutive practice to produce the proof.

"A BILL TO ALLY ILLITERACY AND MEDICINE.—A bill has lately passed the senate to repeal the act of July 13, 1889, requiring intending medical students, in advance of their entrance on their medical studies, to undergo an examination in academic studies. The law is a partial protection of the public from medical ignorance, graduated incompetency, and licensed quackery. The motive of the act was undoubtedly excellent. In actual operation for less than a year, the law has certainly produced no results to bring it into condemnation. It should have a longer life, to enable final judgment intelligently to be passed upon it. No one, however, need be at a loss to explain why a bill repealing it has passed the senate. The law interferes with the revenues of fee schools, ambitiously known as medical colleges. It tends to check the number of ignorant and incompetent persons who desire to become, or to be called doctors. It correspondingly threatens the loss of tuition and graduation fees to such fee schools. It creates in them an interest for the repeal of the laws, irrespective of the benefit an improved standard of knowledge and culture among students for medical degrees would confer upon the community. A bonded pecuniary interest, directly contrary to the safety and welfare of society and moved in the name of the schools of a profession which insists on being called a profession, has thus been able to carry a repeal of this measure through the senate."

The New York schools who have thus demeaned themselves, may well tune their harps to

> "Had some pow'r the giftie gie us
> To see oursels as ithers see us."

Fumigate Tuberculous Houses.

Fumigation of houses where there are or have been tuberculous diseases should not be neglected.

During the past month, Dr. S. G. Stewart reported to Topeka board of health a death from tuberculosis, and asking that the house be fumigated. The board of health had the house fumigated in their usual thorough manner, and have set an example to the health boards of other cities that we hope will be followed. Physicians should make it a rule to observe all necessary precautions to prevent their cases becoming a source of infection. If every physician would simply do his duty in instructing the people in the precautions necessary for the prevention of infection from this scourge, it would be only a few years until the mortality from tuberculosis would be greatly lessened.

DR. LYMAN of Manhattan was a welcome caller at the JOURNAL office last month.

Oh, Fie.

"A bill to repeal the statute requiring the preliminary education of medical students has already passed to its third reading in the New York legislature. This repeal is called for by Dr. Austin Flint and others in the interests of certain colleges on the ground that a large portion of the medical students graduated in the medical colleges of this country are from New York colleges; that the students spend here over a million dollars every winter, and that the act requiring a preliminary examination drives students to colleges out of the State and should therefore be abolished."

We bow our heads in shame when we read the above, to think that our great Empire State should be the first to lead off in this direction—a State to which we have been taught to look as our peer in educational matters. We are opposed to any move which in any way has a tendency to lower the standard of education, medical, literary or otherwise. The above law already had given promise of excellent results, and now to ask its repeal simply because there is a possibility of diminishing the funds in college treasuries, is mercenary in the extreme.—*Kansas Med. Journal.*

Well and bravely said by our Kansas *confrere*. The remedy for such indications of locomotor ataxia as are noted above in the case of Dr. Flint, can be relieved, if not permanently cured, by active antiphlogistic treatment—a withholding of supplies (Western students) counter-irritants in the way of spiced protests, and the dissemination of evidence that the medical schools and colleges located in the large cities of the Central and Western States offer just as good advantages to the student as may be found in the Atlantic Metropolis, where so many of the leading lights in our profession have their eyes congenitally set bias, and unfortunately suffer from a peculiar form of myopia.

We are not without hope that a judicious course of treatment, as above outlined, will affect a permanent cure. The medicine will be hard to take, and is described as bitter, nauseating and weakening; but that is the only way to get down to a bed-rock foundation on which to build up a new constitution with the old imperfections eliminated. All pap not native should be withheld.—*Lancet and Clinic.*

We hope to see the medical profession of the United States rise in their majesty, and in language that will not be misunderstood, condemn such efforts as the above, to lower the standard of medical education whether made by men in high or low position. Such actions indicate that "the scepter is departing from Judah."

The Kansas Medical Journal receives two credits on the roster of the *Times and Register* for April.

The American Medical Association.

The forty-first annual meeting of the A. M. A., held at Nashville, May 20 to 24 inclusive, was one of the most successful in the history of the association. About one thousand physicians registered, and thirty-eight States and Territories were represented.

The next meeting will be held in Washington, D. C., in 1891, the first Tuesday in May.

The following officers were elected for the ensuing year, viz.: President, Dr. Briggs of Nashville; 1st vice-president, Dr. Lindley of Yale; 2d vice-president, Dr. Moore of Omaha; 3d vice-president, Dr. Wyman of Detroit; 4th vice president, Dr. Gibson of Little Rock.

Trustees of the *American Medical Journal:* Dr. J. B. Hamilton of the marine service, Dr. John V. Shoemaker of Philadelphia, and Dr. Nelson of Chattanooga. Members of the Judicial Council: Drs. Scott of Ohio, Peck of Iowa, Murphey of Minnesota, Lane of Kansas, Roberts of Tennnessee, Garcelon of Maine, and Happell of Tennessee.

The delegates in attendance in the association from Kansas were Drs. W. L. Schenck, F. F. Dickman, R. Aikman, J. A. Lane, L. Horner, — Dailey, A. H. Cordier, W. E. McVey, — McNary and J. E. Minney.

Dr. Schenck was placed on the committee for State Medicine for Kansas, and Dr. Horner on necrology:

The citizens of Nashville and the physicians were eminently successful in entertaining the association.

The meeting of American Medical Editors on Monday evening, the 19th, was well attended and the Kansas Medical Journal was for the first time represented and initiated into the fold.

The meeting of the Medical College representatives, in response to the circular of the Baltimore physicians, issued in March 1890, convened in the senate chamber of the capitol in the afternoon and evening of the 21st. Fifty-five colleges were represented. An association was organized to be known as The National Association of Medical Colleges, with Dr. N. S. Davis as president. Letters soliciting membership will be sent to all the medical colleges of the United States.

The object of the association is to raise the

standard of education, literary and medical, and to have a uniform requirement for matriculates and graduates. These subjects will be more fully discussed in the JOURNAL.

The Kansas State Medical Society.

The last meeting of this society, held at Salina May 13 and 14, 1890, was a success in every particular. Our brightest expectations were realized. The attendance was far above the average, and the character of the papers has never been excelled. The address of the president, Dr. C. C. Green, Dr. Foote's and Dr. McVey's articles are all in this number of the JOURNAL, and each one has to be studied to be appreciated.

Dividing the society into sections as suggested by the president and patterning after the American Medical Association is an innovation, but a good one.

The Salina physicians and their assistants deserve great credit for perfecting arrangements, which was a material factor in the success of the meeting. In fact, the only criticism we have to offer is, they put themselves to too much trouble, although the society appreciated their work. Sometimes we have felt that our enthusiasm for the Kansas physician had led us to make exaggerated statements respecting the advance made by him; but our fears have all been dispelled and our conscience set at rest. During the past year there is evidence of greater progress having been made as demonstrated at this meeting, in medicine in Kansas, than for the same period in her history before. Our assertions have been demonstrated beyond a peradventure.

The next meeting will be held in Wichita, and since the Wichita and south Kansas physicians aided so materially in the success of the Salina meeting, we will all join hands and complete the circuit, and so light up the medical heavens another year, that Kansas will attract the attention of the whole medical world.

ALCOHOLIC insanity in Paris has increased judging by the number of insane admitted to the special infirmary for such purpose from 3,084 in 1872 to 4,419 in 1888. It is said to be twice as frequent as it was fifteen years ago.

A Case

OF INTRA-OCCULAR SARCOMA FOLLOWING TRAUMATISM IN ELEVEN WEEKS. REPORTED TO TOPEKA ACADEMY OF MEDICINE.

J. L.———, aged 37, white, German, laborer, married. Early in January, 1890, while engaged in quarrying rock near Lawrence, Kas., was struck by a flying spall in the right eye, producing slight pain and considerable discomfort, but he continued work until evening, at which time the pain became intensely severe. The much used and vaunted "home remedies," hot teas and baths were applied, but of no avail. Flax-seed poultices were also used.

The appendages became much swollen; the globe reddened and as he said became very large and swollen. The pain continued for several days. After a lapse of two weeks he said something like a chunk of matter came out, and with this, vision failed. The pain in a great measure ceased, although the eye was always afterwards tender to the touch.

Examination showed the lids to be swollen. Phthisis bulbi. There was also marked tenderness in the ciliary region and slight pressure gave pain. The pericorneal vessels were more or less injected all the time and a blur would come over the vision of the good eye at frequent intervals.

The trouble in the good eye was evidently sympathetic, and an enucleation was advised, to which consent was given.

I removed the phthisical globe March 28, which was about the size of a large hazel nut and as firm to the touch as solid flesh.

On section the vitreous chamber was found to contain a grayish mass, fibrous in structure, cutting like elastic tissue. The denser portion of the mass being in the center, extending from the posterior surface of the capsule of the lens, to the fundus in the direction of the hyaloid (Stilling's) canal. There was entire absence of the normal vitreous.

Being somewhat suspicious of a malignant growth, a microscopical examination was made which showed the choroid to be involved; in places the inner layers of this tunic were apparently absent, the remaining layers were pressed together and the lumina of its ves-

sels closed. The retina in these places was not discernible, being degenerated and in an atrophic condition to that extent that its identity was poorly defined.

Grouped together between the connective tissue trabeculæ, there was a limited number of oval and spherical, pigmented cells and coarse pigment granules. The stroma varied considerably throughout, in places separated and the interspaces thickly filled with cells, while in others it appeared as thin hair-like bands, close together with but few cells lying between them.

Two stains were used, first, picrolithio-carmine. second, hæmatoxylum. The cell contour with its nucleus and nucleolus were brought out much more distinctly with the latter staining. An objective of ⅙ power was used.

ANATOMICAL DIAGNOSIS.

Melano-sarcoma of the choroid, with degeneration of the retina. The lids, principally the upper one somewhat swollen, conjunctiva considerably injected, slight tenderness on pressure, were manifiest symptoms at time of enucleation.

No history of cancer in the family. Parents living. Patient has always enjoyed good health. No apparent ill effects followed the operation. A slight discharge of pus escaped from the palpebral fissure for a few days.

At the close of the second week, fitted him with an artificial eye, with the permission to wear it only occasionally until six or eight weeks would elapse, before wearing permanently.

The remaining eye is losing its sensibility to light and apparently gaining strength.

Has enjoyed the best health since, showing no signs of sarcoma of the orbit or any other part of the system.

R. S. MAGEE, M. D.

TOPEKA, KAS.

DR. F. M. ZANE who purchased the practice of T. B. Shaw, of Osage City, was a caller at the JOURNAL, office recently.

THERE were 40,321 physicians in the Japanese empire at the beginning of the year.

YOU are doing good work on your JOURNAL.

Sincerely, J. W. SHUMAKER

Notes on Infant's Food.

Contrary to the popular opinion, few foods affect seriously the milk, while the nervous influences or the mental disturbances of the mother, do affect the quality of the milk.

Pregnancy, menstruation, and all things tending to impair the mother's health, have a deleterious influence on the milk.

The following drugs affect the milk: belladonna, opium and iodide of potassium.

In feeding children cow's milk, one of the most serious objections has been, the coagulation of the albumen. While the curds of the mother's milk are fine and flaky and easily digested, those of cow's milk are apt to be large and firm, and digested with great difficulty. We have often tried preventing this by the addition of lime-water. In reality, it is the water and not the alkali which has prevented the coagulation. Dilution of one part of cow's milk with four parts of water, will give a curd very similar to that of mother's milk. A better infant's food than any ready prepared, is the formula originated by Dr. Meigs of New York, made of milk and cream three parts, sugar-water three parts, lime-water eight parts, and this gives on chemical analysis, the same result as mother's milk. It is prepared by taking a quart of milk, allowing it to stand three hours in a tall vessel, and using the upper half, which contains the richest part of the milk; the lower pint in the vessel being discarded. The sugar-water is made of sixteen heaping teaspoonfulls of sugar of milk, dissolved in a quart of hot water, and allowed to cool.

Children should be fed with regularity, and the amount given and frequency of feeding, should of course vary with the age of each child. A graduate should be used for exact measurement, and a child of one week old should have ten meals a day, not exceeding one ounce each in quantity. A child from two to six weeks of age, should have eight meals per day, of one and a half to two ounces each meal. At four months, six meals, of four ounces each, At six months, six meals, of five ounces each. A child of one year of age will need five meals of eight ounces each.

KEOKUK has another medical college.

LITTLE THINGS.

THE *Hospital Gazette* thinks a comparison of the London ambulance system with the admirable one in American cities, is calculated to make Englishmen blush.

THE air cooling apparatus of Mr. Fouquet, which appears in our advertising columns this number, was endorsed and recommended by the South Kansas Medical Society at its last meeting.

THE Chicago Medical *Times* says, that Phillip Doddridge is credited with the first authentic reference to nerve stretching. In zeal and vigor in the Christian race he says: "Awake, my soul, stretch every nerve and press with vigor on.

PROGRESSIVE SCIENCE.—Old Mrs. Bently: "What a lot of new diseases they have now they didn't have twenty years ago?"

Old Mr. Bently: "Yes, but you should remember Eliza, we have a terrible sight more doctors now than we had twenty years ago." —*Judge.*

THE *Texas Courier-Record of Medicine* says, as a general rule, a throbbing headache, with tenderness and soreness of the scalp, can best be relieved by hot applications; whereas, when the head is full to bursting, if cold be applied to the head and the heat to the neck and spine, the effect is most agreeable.

"COCA" has maintained its reputation as a powerful nerve stimulant, being used with good results in nervous debility, opium and alcohol habits, etc. The highly variable character of the commercial drug makes it uncertain however. Robinson's Wine Coca (see page ii) we believe to be a uniformly active article, it being prepared from assayed leaves, the percentage of Cocaine being always determined by careful assay.

A WORTHY medical contemporary appears to be laboring arduously with the question "The influence the handling of bank-notes has in the spread of contagious diseases." This is a subject of vital interest. Some of our bank-notes go through a great many different pockets and localities before their final decay and annihilation. But the public in general is willing to risk the possibilities of contamination through the "morbific agents," with which they are said to be freighted, if they are only permitted the pleasure of handling them. At any rate owing to the antiseptic precautions taken by physicians it does not apply to the medical profession.

EDITOR-IN-CHIEF, Dr. John E. Minney, at the late meeting of the Kansas State Medical Society was unanimously elected president of that body for the ensuing year. The election meets with the hearty approbation of the profession throughout the entire State. For three consecutive terms, he has faithfully filled the office of secretary. The doctor left on the 17th for Nashville, Tenn., to be absent two weeks, in attendance as delegate to the National American Medical Association, May 20-25. He will also attend the American Medical Editors' Convention, which meets on the 19th in that city. R. S. M.

MISSOURI RIVER WATER.—Stranger, trying to see through a glass of water held before the light. "Your drinking water has a good deal of body to it." Physician; looking at a microscopic specimen. "Yes, there is considerable body, but then just look at the legs?"

CONSUMPTIVE tendencies as influenced by home travel, in the country in this number of the JOURNAL. This mode of travel and direction to patients is within the reach of every one, and hence practical—and we believe of great value in the treatment of that class of cases.

A CANDIDATE FOR MALE FERN.—Officers' mess, Captain to Lieutenant who has eaten his own dinner and part of the captains. "What, aren't you satisfied yet? Are you still hungry?" Lieutenant, No, not quite satisfied. One of us is still hungry, but I'm not sure whether it is I or the worm.

A CASE OF SUSPENDED ANIMATION.—A woman residing near Hutchinson, Kansas, suddenly died on March 15, complaining for a few hours of a severe pain around the heart. Medical advice pronounced life extinct, yet the husband refused to believe it, and furthermore refuses to bury the remains. The strangest part of it is that the body resembles one in death yet shows no signs of decomposition.

SOCIETY PROCEEDINGS.

Topeka Academy of Medicine and Surgery.

The Topeka Academy of Medicine and Surgery met in the office of Dr. J. E. Minney, Tuesday evening, May 6, the president, Dr. L. H. Munn in the chair. Members present, Drs. L. G. Beers, Wall, Ward, Pelton, R. E. McVey, Longshore, Peers, W. E. McVey, Williamson, Stewart, Alexander, McGuire, Lewis, McClintock, Lindsey, Mitchell. Visitors, Rev. Shelden, Drs. M. A. Cazier, C. C. Bradley, S. R. Magee, and Mr. Gilbert medical student.

Drs. E. V. Coldren and M. H. Cazier made application for membership, and Drs. C. C. Bradley, S. R. Magee and F. W. Bailey were elected to membership, their application as is the custom having been sent in a month previous.

Dr. D. K. Lonshore then read a paper on "Infant Feeding," which brought out the following discussion:

Dr. R. E. McVey thought salt a necessary ingredient of milk and foods. When salt dissolves it produces hydrochloric acid, one of the ingredients of the gastric fluids. Animals seek after salt. Spoke of the use of oils and fats, children require a certain amount of them. Had fed infants with indigestion, butter.

Dr. Cazier thought that more might have been said on the dilution of milk. The rule is that cows milk is the best artificial food. We are likely to forget that infants require water and should have it at times when we think they want the breast. Thinks babies are fed too much at night.

Dr. W. E. McVey spoke of the albuminoids in infant foods. The amount of albuminoids in human milk is from one to four per cent., and infant foods should contain the same proportion. By diluting cow's milk we diminish the amount of sugar. We should add cream then sweeten. Thought it would be well to get the composition of the mother's milk, then we should know how to arrange the different ingredients of the cow's milk. A good combination for most cases is, milk ʒii, cream ʒiii, water ʒx, sugar ʒvii. The cream supposed to be 20 per cent. fat.

Dr. Alexander emphasized Dr. Cazier's remarks in regard to water.

Dr. McGuire spoke of giving meat to babies, thought there were a great many babies who could eat meat without causing any trouble. Thought plenty of water should be given. How shall artificial food be administered? the ordinary rubber nipple drawn over a bottle better than the complicated rubber tubes and nipples.

Dr. Mitchell spoke of the early attention to children, i. e., during the first few days. Indigestion is often caused by the early stuffing with various mixtures. Do not give the infant anything during the first few hours.

Dr. Lewis—The point of the greatest importance is the mother's milk. The question is, who is the healthy mother? Referred to sickly mothers having healthy children, and healthy mothers having sickly children. Had seen mothers with pronounced tubercular disease, rear healthy children. Had known of diabetes mellitis being produced by condensed milk. Believed in giving infants water during the first few hours.

Dr. Peers thought cow's milk the most suitable substitute. It is the casine in the cow's milk that causes trouble, digest it with some of the preparations for the purpose. Oat meal water, barley, etc., are good to dilute milk. Milk prepared with a milk shaker makes it more digestable. Cocoa prepared with milk makes milk for the mother where there is a scarcity of milk. Some mothers have good milk but not enough of it. Artificial foods are of three kinds, Leibig's or meat foods, cereals and milk food. Has had best results with peptogenic milk powder, add to it instead of water, barley water or oat meal water

Dr. Pelton spoke of a case where jaborandi given to the mother to increase the flow of milk kept up a diarrhœa in the infant.

Dr. McClintock thought milk for infants should be steralized. Cow's milk should be largely diluted, the fluid with which we dilute not so important, as barley water, etc., acts principally by dilution.

Dr. Ward—No two children will require the same treatment. Babies should not be allowed to nurse while the mother is overheated, and mothers should not overwork themselves

while nursing. Better to have the milk of one cow, fed on proper food in preference to giving the milk of several cows or a cow fed on a variety of food. Rest to the stomach is important, this is accomplished by giving nothing but water for a few hours. Believes in boiling, but we must be careful not to overdo it. The oil should be washed off occasionally with soda water.

Dr. Beers—We must rest the stomach. Some mothers feed their children too ofter. We judge of the proper food largely by experiment. Gave an instance of two children, the one fed with arrowroot on which it thrived, the other could not get along with arrowroot, but was fed beef juice and broiled beef and thrived.

Dr. R. E. McVey said cream was not a perfect food, it was a heat producer, not adapted for giving any length of time.

The reading of further papers was deferred until a special meeting called for Tuesday evening, May 20.

D. F. RODGERS, Sec'y.

Kansas State Medical Society.

The twenty-fourth annual meeting of the Kansas State Medical Society convened in Salina, in Red Men's hall, May 13, at 8:15 p. m., Dr. C. C. Green, president, in the chair. The following members answered to roll call:

MEMBERS PRESENT.

Reid Alexander, M.D., Topeka.
James Bell, M.D., Olathe.
L. A. Buck, M.D. Peabody.
D. Bell, M.D., Richmond.
W. D. Bidwell, M.D., Leavenworth.
J. R. Crawford, M.D., Assaria.
W. Cannon, M.D., Smith Centre.
A. H. Cordier, M.D., McPherson.
J. W. Crowley, M.D., Salina.
F. F. Dickman, M.D., Fort Scott.
Geo. Emerson, M.D., Winfield.
A. H. Fabrique, M.D., Wichita.
Jas. S. Foote, M.D., Wichita.
C. H. Guibor, M.D., Topeka.
C. C. Green, M.D., Topeka.
Chas. Gardner, M.D., Emporia.
C. R. Hume, M.D., Caldwell.
M. H. Haskins, M.D., Galva.
L. Horner, M.D., Lawrence.
W. N. King, M.D., Abilene.
L. J. Lyman, M.D., Manhattan.
W. S. Lindsay, M.D., Topeka.
J. A. Lane, M.D., Leavenworth.
D. F. Longenecker, M.D., Emporia.
Geo. L. Limmer, M.D., Topeka.
M. R. Mitchell, M.D., Topeka.
G. D. Maxson, M.D., Hartford.
T. L. McCartha, M.D., Dodge City.
J. E. Minney, M.D., Topeka.
L. H. Munn, M.D., Topeka.
J. F. McGill, M.D., Leavenworth.
Sam'l. Murdock, M.D., Oneida.
A. B. Peters, M.D., Mankato.
W. A. Phillips, M.D., Salina.
H. S. Roberts, M.D., Manhattan.
N. T. P. Robertson, M.D., Hutchinson.
W. H. Righter, M.D., Topeka.
W. L. Schenck, M.D., Osage City.
E. R. Switzer, M.D., Salina.
C. H. Shriner, M.D., Baxter Springs.
M. B. Smith, M.D., McPherson.
N. F. Sawhill, M.D., Concordia.
N. J. Taylor, M.D., Topeka.
N. T. Tobey, M.D., Salina.
L. L. Uhls, M.D., White City.
M. B. Ward, M.D., Topeka.
L. J. Warren, M.D., Clay Centre.
J. J. Wright, M.D., Emporia.
G. A. Wall, M.D., Topeka.
F. B. Tiffany, M.D., Kansas City, Mo.
Chas. W. Adams, M.D., Kans. City, Mo.
D. F. Rodgers, M.D., Topeka.
J. E. Sawtell, M.D., Gypsum City.
Hal. Foster, M.D., Kansas City, Mo.
C. E. Wilson, M.D., Kansas City.
B. F. Morgan, M.D., Riley.
W. S. Harvey, M.D., Salina.
Z. T. Harvey, M.D., Council Grove.
Andrew Engberd, M.D., McPherson.
Robt. L. Doig, M.D., Ellsworth.

Committee of arrangements made its report.

The following is the committee on credentials:—Drs. Buck, Gardner, Robertson, Phillips, Cordier.

Auditing committee:—Drs. Bidwell, Alexander and Cannon.

Dr. Green, president, delivered an address, which see in this number of the JOURNAL, page 491.

Dr. Uhls read a paper prepared by R. E. McVey, M. D., of Topeka, entitled "Crime—its Physiology and Pathogenesis, and what Medical Men can do for its Prevention." (See page 499) of this number of the JOURNAL.

DISCUSSION.

Dr.Bell—The paper is scholarly and commendable, and yet I do not agree with the author wholly. Sin does not depend on a man's physical condition—sin attaches to the moral nature. Sometimes the physical condition may have to do with it and sometimes the mental, it is more purely metaphysical. The most fully developed mental faculty, may be the most disposed to crime. The environment may have some effect; sin is implanted in the soul and is latent. The punishment for crime as taught in the paper is not according to scripture and is therefore erroneous. Capital punishment is right and should be enforced. All premeditated, willful murderers should be hung. The divine law is still the best.

Dr. Bidwell—The first murderer on record was not slain for his crime. We must act and judge in accordance with the present customs of society. Physicians may aid much in the prevention of crime. The prevention of the crime is to be accomplished before the birth of the child.

Dr. Murdock was pleased with the sentiment of the paper. I cannot see how we arrive at the conclusion that sin is due to molecular changes.

Dr. Wright—Punishment of crime has been to me of much interest for many years. Believes the way to reform man is by regeneration of the heart. [Applause.] Don't believe in capital punishment; striped clothes will cure the speaker in one day. Harm comes from such punishment, it makes men worse rather than better. It is certainty of punishment that prevents crime rather than the mode of punishmment.

Dr. Dickman said parents are responsible for many of the crimes and criminals. When a child shows the first tendency to commit crime, they should at once be chided and watched. Criminals must be punished.

Dr. Minnney—I understand the paper to represent the physical side of nature rather than the moral side as has been considered by the speakers. It pays always as a rule not to be anxious to punish one's enemies. Sin is the transgression of a law of nature.

Dr. Uhls—In closing discussion said that he was in full accord with the teachings of the paper. Poverty makes rascals of many Kansas people. For instance, many men will not pay a debt after many years of reverse fortune.

On motion of Dr. Guibor it was ordered that all papers read before the society shall, without motion, be referred to the committee on publication.

Dr. Bidwell moved, and it was so ordered, that each individual discussing the papers should be limited to five minutes.

Dr. Bidwell read a paper entitled "The American Academy of Medicine."

Paper was well received.

Dr. Curtis read a paper on the "Relief of Abdominal Section of Obstruction of the Bowels.

Dr. Samuel Murdock placed himself on exhibition with the following history:—In 1862 he was wounded in the shoulder. About four years afterward had symptoms of paralysis of the spinal muscles. This condition grew worse until now he can change the position of the spine in a marvelous manner.

On motion, adjourned.

SECOND DAY, MAY 14.

Society convened at 9 a. m., president in the chair.

The following resolutions were introduced by Dr. C. H. Guibor:

Resolved, That the best interests of the Kansas State Medical society will be best served by a change of officers each year.

Resolved, That it is the sense of the members of the Kansas State Medical society, that a division of the work of the society into sections, would add to the interest, and increase the number of valuable papers which might be presented, that can not now be under existing circumstances.

Adopted.

Dr. C. H. Shriner, of Galena, was appointed to fill vacancy in place of Dr. Schenck on the judicial committee.

On motion of Dr. Minney, greetings were telegraphed to Indiana and Kentucky State Medical societies, which are now in session, as follows:

"The Kansas State Medical society, in convention assembled, sends greeting to the Indiana and Kentucky Medical societies. May their labors terminate happily for both mother and child."

Pending the consideration of by-laws relative to membership, the following resolution was adopted:

Resolved, That the committee on credentials be authorized to pass upon applications for membership, in accordance with former law.

The following is the list of new members elected:

R. S. Magee, M.D., Topeka.
J. E. Oldham, M.D., Wichita.
C. C. Uhls, M.D., Woodbine.
W. C. Bower, M.D., Lebanon.
J. B. Curtis, M.D,, Lindsborg.
J. J. Werthner, M.D., Lincolnville.
Louis H. Murphy, M.D., Minneapolis.
J. S. Graves, M.D., Inman.
Fred K. Dunn, M.D., Council Grove.
G. C. Purdue, M.D., Wichita.
H. I. Fuller, M.D., Hartford.
S. V. Fairchild, M.D., Miltonvale.
O. H. Hughes, M.D., Jewell.
John Maclay, M,D., Minneapolis.
Jos. Sanders, M.D., Niles.
W. H. Wells, M.D., Wichita.
H. H. Russell, M.D., Lucas.
J. D. England, M.D., Salina.
W. M. Waterman, M.D., Manchester.
L. W. Lynde, M.D., Tescott.
C. E. Steedman, M.D., Junction City.
J. A. Whiting, M.D., Milford.
Jno. M. Hogsett, M.D., McCracken.
S. Laning, M.D., Kingman.
W. E. Fowler, M.D., Brookville.
J. R. Divelbiss, M.D., LaCygne.
W. E. Shastid, M.D., Wichita.
John L. Benepe, M.D., Kingman.
F. B. Browne, M.D., Salina.
L. C. Cook, M.D., Ellsworth.
J. H. Fore, M.D. Clay Center.
J. W. Fetty, M.D., Abilene.
N. V. Boyce, M.D., Bennington.
W. A. Jordan, M.D., Wichita.
E. E. Hazlett, M.D., Abilene.
Geo. W. Frost, M.D., Emporia.
W. W. Williams, M.D., Wichita.
Jeffrey Martin, M.D., Marion.
William H. Lee, M.D., Ada, Ottawa Co.

Drs. Hal Foster and C. E. Wilson were elected honorary members.

Dr. Dickman then opened the regular work of the day by reading a paper entitled "Dilation of the Cervical Canal for the Permanent Cure of Dysmenorrhœa."

Dr. Fabrique opened discussion. He has never accomplished as much as the author in one operation—had to repeat the operation, sometimes had to supplement the operation by Jackson's spiral plug. Had never dilated the os as much as $1\frac{1}{4}$ inch as had the author. Had split the os to the vaginal junction, and therefore is afraid of too much violence. We are apt to make wrong diagnosis. Sometimes the fault of sterility is with the husband. Sterility may be the result of stricture in the male organs. Ought to take more time in dilatation.

Dr. Oldham said we can not overestimate the operation of dilatation in cases of dysmenorrhœa and sterility, but he was much opposed to so rapid and complete dilatation. Thinks many cases of dysmenorrhœa are caused by trouble of the os uteris. Some cases will be benefitted, but pregnancy is the only permanent cure. It takes him three or four months to accomplish a cure. Gradual dilitation is the best plan. Any operation on the cervix, when we have peritoneal trouble, is dangerous.

Dr. Adams, Kansas City, wished to congratulate the author on his great success. The author has had more success than he. Was not able to dilate the os as far as Dr. Dickman. Could not succeed in getting the canal $1\frac{1}{4}$ inch in diameter—it is not a safe operation. No two cases are alike in their results. Every case of dysmenorrhœa seems to require different treatment. It is so often due to diseases of uterine adnexia. Do not think we can make the broad statement of the author.

Dr. Lyman could not see what use any woman has with a cervix canal of $1\frac{1}{4}$ inches. Says he is very careful in his work and is afraid of anything more than $\frac{5}{8}$ of an inch. No need of anæsthetics. Gradual dilatation should be the treatment, regardless of time.

Dr. Bidwell wanted to know what effect his treatment had on catarrhal trouble.

Dr. Ward was anxious to say some things

with reference to Dr. Dickman's treatment, but would not occupy the time of the society at this time, but wished to give this word of warning: rapid dilatation of the cervix is a most dangerous procedure. It is impossible to use such violence in the management of the cervix, without great danger to the intra-pelvic organs. Referred to three cases of salpingitis and general adhesions caused by rapid dilatation of the os.

Dr. Dickman in closing said that he had seen no trouble following his treatment, always selects his cases. If the instrument be left in the os a few minutes, you can dilate more and more with safety. In reply to Dr. Bidwell, said he avoids all cases of catarrhal inflammation.

(Continued in July number.)

South Kansas District Medical Society.

The South Kansas District Medical Society met in the I. O. O. F. Hall, Wichita, May 6, 1890, with Dr. McAdams, president, in the chair, and Dr. Harris secretary.

The minutes of the last meeting were read and approved.

Present, Drs. Axtell, Buck, Cave, Emerson, Furley, Freeman, Fabrique, Hungate, Hamilton, J. D. Harris, Klippel, McAdams, McCollough, McKenson, Martin, McCracken, Minney, Nolder, Oldham, Sippey, Shelley, Williams, Foote and Hoffman.

The secretary's bill of $13 74 for stamps, stationery and printing was allowed and an order directed to be drawn on the treasurer for the same.

Dr. K. F. Purdy sent in a petition asking to be allowed to withdraw from membership in the society, which by vote was granted.

Petitions for membership were received from Drs. J. W. Fetty of Abilene, F. B. West of Wellington, A. S. Cloud of Kiowa, P. O. Webb of Argonia, A. J. Graham of Wichita, J. R. McCluggage of Douglass, E. D. Easter of Milan.

The board of censors reported favorably on the names presented for membership and the secretary was instructed to cast a favorable ballot electing them to membership, by their signing the constitution and by-laws and paying the membership fees. Adjourned to meet in the hall of the Wichita Medical College at 1:30 p. m.

AFTERNOON SESSION.

An amendment to the constitution having been offered at the last meeting, was now taken up and adopted as follows:

"That article Four of the constitution read 'the stated meetings of this society, shall be held the first Tuesday in May and the third Tuesday in November of each year.'" Peabody was chosen as the next place of meeting.

The cooling appliance for sick rooms, exhibited by Mr. Fouquet, was endorsed by the Society as a body.

A committee to prepare papers for the next meeting was appointed as follows: Drs. Nolder, Cloud, Hungate, Martin and Hall.

Dr. Hamilton of Douglass, read a paper on "Puerperal Peritonitis," which will be published in the JOURNAL with a synopsis of the discussion.

Dr. M. W. Cave of Oatville, reported some cases of empyemia—see page 504—for paper.

Dr. McCracken reported some cases of puerperal eclampsia. In the discussion Dr. Fabrique said he favored bloodletting in such cases and that he had never seen a case where the lancet had been used freely but was followed with good results. An anæmic appearance was no contra-indication to blood-letting in puerperal eclampsia.

Dr. Klippel favored venesection in such cases. His first case of puerperal eclampsia died, and venesection was not resorted to in that case. In the second case it was and the patient lived. The third died without venesection and the fourth venesection was practised every day for four weeks and the patient recovered.

Dr. Buck—In plethora bloodletting is indicated, but in anæmic patients it is contra-indicated.

Dr. Martin—Where congestion of the brain occurs, veratrum is an excellent agent in some cases. Thirty drops of the fluid extract for two or three doses, noticing the pulse. Also small doses of pilocarpine watching the constitutional effects.

Dr. Fabrique—Such large doses if taken up are dangerous; but they are not absorbed by the stomach and hence are practically nil.

Dr. McCracken—Venesection should be practised in plethora, but not in anæmia.

Dr. Webb reported a case of resection of the elbow joint. Presented the specimen. The report will appear in the JOURNAL.

Dr. Freeman reported an interesting case of epilepsy, which will be publised.

Adjourned to meet in Peabody, third Tuesday in November, 1890.

W. K. HARRIS, M. D., Secretary.

BOOK REVIEWS.

Spinal Concussion, surgically considered as a cause of spinal injury, and neurologically restricted to a certain symptom group, for which is suggested the designation ERICKSON'S DISEASE, as one form of the traumatic neurosis. By S. V. Cluruger, M. D., &c. Philadelphia and London. F. A. Davis, publisher. 1890.

This, a most excellent review and classification of the knowledge of this subject of the present day. The author's theory of organic change in the cord is reasonable, and may prove in time to be exactly correct. The suggestion of the name "Erickson's Disease," we consider quite unscientific, and we hope for a time when our nomenclature will be rid of such meaningless terms as Bright's Disease, &c. The volume has great merit as a medico-legal work. L.

Pleuro-Pneumonia following La Grippe.

ARVONIA, OSAGE CO., KAN., April 8, '90.
Editors of Kansas Medical Journal.

GENTLEMEN:—I submit a case of pleuro-pneumonia, following la grippe, which you are at liberty to use in part or in full as you may see fit; or, even should you relegate it to that great depository, the waste basket, I can assure you that your fighting editor will not be called out by me.

Was called February 3, 1890, to the patient in question. Found a young man, age 24 years, married; an American by birth and parentage, and a perfect picture of physical manhood, suffering excruciating torture by reason of pleuritis on the right side, and a completely hepatized lung accompanying it. This was the third day since the acute inflammatory trouble had manifested itself, and during the preceding thirty-six hours the patient was unable to reach a recumbent posture at any time. I at once administered one-half grain morphia sulph. hypodermically, and had the satisfaction in a short time to see him lying down with some degree of comfort. His temperature at that time was 104°, respiration 44 per minute, and pulse 136. I made ordinary prescription, counter-irritants to the affected side; ordered both, and left opiates sufficient to keep the patient comparatively free from pain. Recommended that he have plenty of milk as a diet. Called to see him from day to day without noting any very important change.

Patient had been, and was, up to the tenth day in a delirious condition. Upon the seventh day found decided effusion into cavity, and upon the tenth day decided to aspirate, notwithstanding that the temperature was still high, and existing evidence of an inflamed pleura. Accordingly I called in counsel Dr. S. L. N. Foote, of Lebo, Kansas, and we proceeded to aspirate, not in full, but partially removing not above thirty-two ounces of serum with the hope to favor absorption, but in this we were doomed to disappointment; and upon the fifteenth day the symptoms became so urgent that I made exploration with the view to a more radical operation.

I found the character of the fluid but slightly changed, and after consultation with Dr. Foote we agreed to aspirate thoroughly, which we did upon the sixteenth day, removing one-half cong. of serum, and, as we feared at the close of the operation, possibly some pus. We then proceeded to wash out the cavity with a bichloride solution, one to four thousand, and having done this secured the affected side with a heavy strap of surgeon's plaster. In making these operations we used ice and salt as our anæsthetic locally.

There were no untoward symptoms following the operation, the patient reacting well, the temperature falling by the morning of the next day from $102\frac{4}{5}°$ to $99\frac{1}{2}$; the respirations were of course still quite rapid, as the lung had not yet began to expand.

Our treatment was supportive—milk, eggs and brandy, together with tonic doses of quinia and digitalis as required.

The symptoms were but slightly changed up to the twenty-second day from first observation, when I found a marked rise in temperature; the evening record on the last date being 102°, with profuse diaphoresis. Manual examination determined another effusion, and the attendant symptoms pointed to empyema. I had broken my hypodermic syringe, and as it was off for repairs, I was forced to the expediency to which we poor country physicians have to resort, awaited any further exploration until I could borrow one, which I did from Dr. C. F. Lusk of Lebo, Kansas.

On the morning of the twenty-third day found the temperature unchanged, and general symptoms in *statu quo*.

I made exploration with hypodermic needle, and withdrew a quantity of light straw colored pus. I determined at once to perform paracentesis, and summoned Drs. Foote and Lusk to meet me at the patient's home upon the following day, which they did, and we at once proceeded to operate, using Squibb's chloroform as an anæsthetic. I made a free incision along the upper margin of the sixth rib, in a posterior lateral position, from which flowed about one-half gallon of pus of the character before described. Unfortunately the vessel that had been provided for us to receive the pus in was imperfect, and a portion of it ran out so that it was not possible to any more than approximate the quantity obtained. Of course before beginning the operation, the surface was thoroughly washed with a bichloride solution. And after the pus had escaped the sack was thoroughly cleansed by repeated washings with a carbolic acid solution, using a fountain syringe for the purpose of irrigation. A drainage tube was then inserted, and the after treatment was thoroughly antiseptic, using the "Lister absorbent gauze" in half-dozen layers, over which was placed absorbent cotton; then a number of layers of cheese cloth, which had been boiled for four hours in a carbolic solution, between which was superimposed a layer of protective paper, the whole being secured by a roller bandage; and outside of all a rubber roller was placed to further preclude the possibility of air entering the cavity. This dressing remained two days, when it was removed, and the sack was washed out with a one four thousand solution of bichloride of mercury. By this time the temperature had fallen to nearly a normal point, and the lung began to give evidence of expanding. I dressed as before, and was gratified to find the discharge lessening, and the patient making rapid strides toward recovery. The after treatment, with the exception of the use of a carbolic acid solution in irrigation, in lieu of the bichloride, was as before indicated. The patient was discharged upon the fifth day of his illness. The lung has fully risen, and the patient's general condition is excellent. I had one or two slight rises in temperature, always owing to the blocking up of the drainage tube; and here let me say that I was compelled to use a very soft tube in the first instance, which I supplied the place of at the earliest convenience possible with one of greater density, after which I had no more difficulty with the case.

Respectfully submitted,

W. R. ROUP, M. D.

Consumptive Tendencies.

AS INFLUENCED BY TRIPS ACROSS THE COUNTRY IN A CARRIAGE.

There is a strong conviction that life in the open air serves an excellent purpose in warding off threatened attacks of phthisis or in curing it. Certainly, however, it is believed that to obtain the benefits of open air, a locality distant from the patient's home is imperative, on the mountains, by the sea, at the South, or in the North, etc. As a matter of fact most patients are unable to leave their home. If they are treated at all, they must be treated in the State in which they reside.

Many years ago, a physician who had spent nearly eighty years in Vermont, over fifty of which he was in active practice, told the writer that shortly after he began the practice of medicine he broke down, and was told by his medical advisors that he was attacked by consumption. He took his horse and wagon and for three months spent his time riding about New England and New York. He would travel far or near, daily, according to his inclination. At the end of the period he

returned to his home and professional work and continued it almost without interruption, till nearly eighty years of age. He died at last, not from any disease, but as the "deacon's one-horse shay" vanished, all at once without any apparent cause.

In minor forms this observation of the effects of open air travel has many times been confirmed by the reports of careful observers. Dr. H. I. Bowditch (*Medical News*) gives a valuable contribution in support of the value of open air travel to consumptives. In 1808 his father had all the indications of consumption. With a friend he took a tour of New England in a one-horse chaise. The first day he traveled twenty-five miles, but his exhaustion and hæmoptysis was so great that he was urged to return home to die. But he pushed on, and every day brought him improved health. After his return home he took regular open air exercise, and died of carcinoma of the stomach thirty years later, at the age of sixty-five. One lung presented evidence of an ancient cicatrix at its apex, but both were otherwise healthy.

He says that his father married his cousin, who died of chronic phthisis two years before his father. Of eight children, one died at birth, and one at eleven. All the others arrived at adult age and married, several being still living. Of the ninety-three direct descendents of his father, not one was phthisical. This result is attributed to the journey, supplemented by following out-door exercise, and careful regulation of the health of his children.

Dr. Bowditch thinks that many patients die from the want of open air treatment. He directs each of his phthisical patients to walk daily from three to six miles; never to stay at home all day unless a violent storm be raging. If the weather is very cold he directs them to wear respirators. He forbids standing still on the street to talk with friends. He thinks that by following this plan patients may be cured at home, and while stilll conducting their business; this seems sound sense. Better use the air at our doors and near our homes before we fly to other air hundreds or thousands of miles away.

To those unable to walk sufficiently far to reach the best air near home without excessive fatigue, it is advisable to use a horse and buggy, or a team driven by the patient, which is far better. The therapeutic value of a spirited span of thoroughbreds, to one able to manage them, is very great, and these. too, can be added to the effects of the open air proper. Consumptives are only one of many classes of people who would be thus benefitted.—*American Lancet.*

CHLOROFORM VINDICATED.—The Hyderabad chloroform commission, according to the Dublin *Journal of Medical Science*, gave chloroform in all sorts of ways, with the invariable result that the respiration stopped before the heart. The commission drew up fourteen practical conclusions, which may be summarized as follows: The recumbent position on the back and absolute freedom of respiration are essential. Tight clothing of every kind should be avoided. An apparatus is not essential. A convenient form of inhaler is an open cone, or cup with a little absorbent cotten inside at the apex. At the commencement of the inhalation care should be taken, by not holding the cup too close over the mouth and nose, to avoid exciting, struggling or holding the breath. As a rule, no operation should be commenced until the patient is fully under the influence of the anæsthetic. The administrator should be guided as to the effect entirely by the respiration. If breathing becomes embarrassed, the lower jaw should be pulled or pushed from behind the angles forward. Alcohol may be given with advantage before operations under chloroform, provided it does not cause excitement, and merely has the effect of giving a patient confidence and steadying the circulation. Suspended respiration is to be treated by artificial respiration and lowering the head. They add that "the commission has no doubt whatever that, if the above rules be followed, chloroform may be given in any case requiring an operation with perfect ease and absolute safety, so as to do good without the risk of evil."

"WELL, I see old McGallagher has died at last."

"Yes, it was a sad loss to me."

"I didn't know you was a friend of his?"

"No, I was his physician."